47th Year JANUARY 3, 1907 Number 1

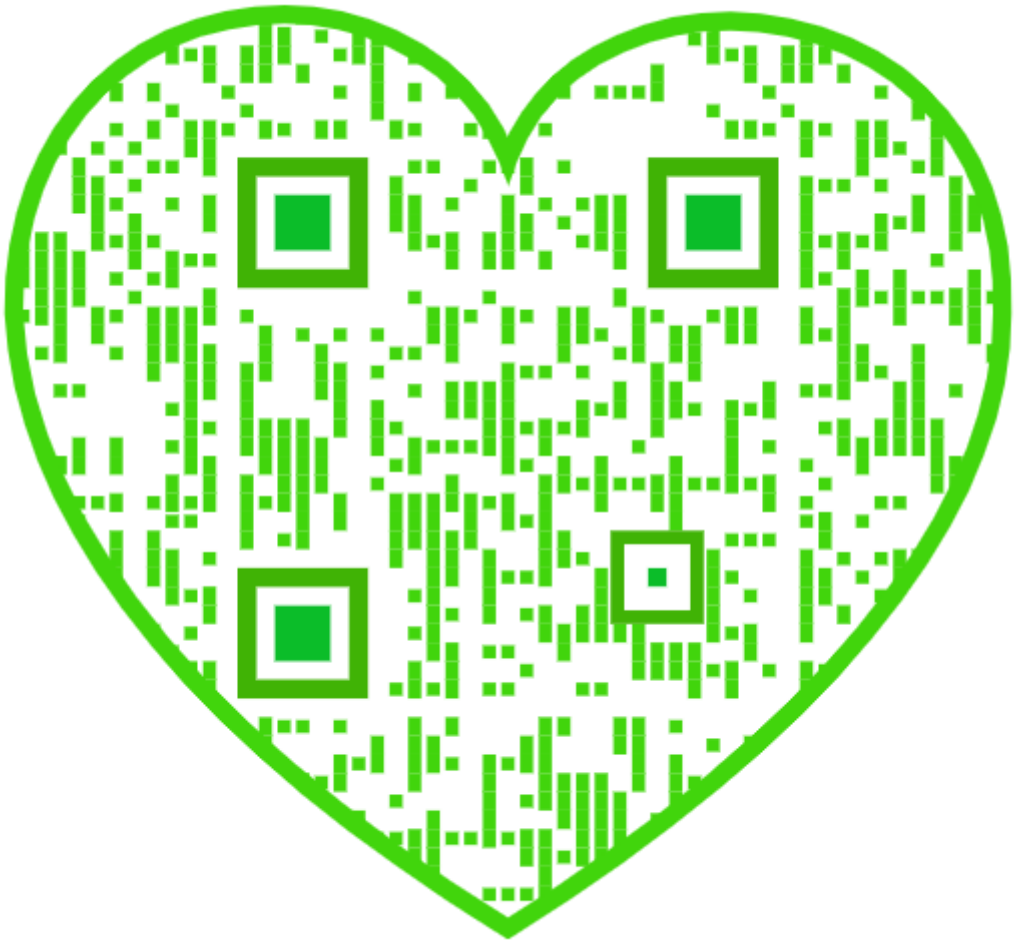
AMERICAN BEE JOURNAL

A VIEW OF THE CITY OF SAN ANTONIO, TEX.
(See page 6)

Will Atchley. J. Q. Smith. F. W. Muth. J. P. Doll. W. H. Putnam.

"UP AGAINST" THE HEAT AND BANANAS.

TWENTY-PAGE NUMBER



American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

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Goes to press Monday morning.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

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Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

Lewis Goods at 3 percent Discount DURING JANUARY, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

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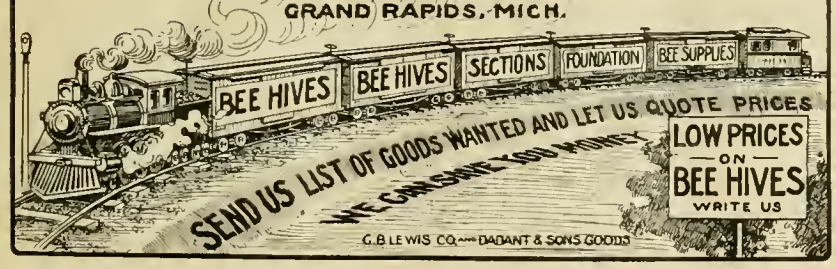

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FOR HIS
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S. C. Buff Orpingtons

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		OUR PRICE
Delineator	1 yr. $1.00	
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World's Work	" 3.00	

		OUR PRICE
Review of Reviews	1 yr. $3.00	
Success Magazine	" 1.00	$3.60
Woman's Home Companion	" 1.00	
Or any class A magazine.		

		OUR PRICE
Cosmopolitan or Success	1 yr. $1.00	
Yachting, or any class B	" 3.00	$4.00
Field and Stream	" 4.00	
Or any class 4 magazine.		

		OUR PRICE
American Boy	1 yr. $1.00	
Cassell's Little Folks	" 1.50	$3.30
Metropolitan Magazine	" 1.00	
Any class A may be substituted.		

		OUR PRICE
Recreation or Appleton's	1 yr. $1.50	
Metropolitan Magazine	" 1.50	
Review of Reviews	" 3.00	$4.65
Woman's Home Companion	" 1.00	
Or any class A magazine.		

		OUR PRICE
Scribner's Magazine	1 yr. $3.00	
Suburban Life	" 1.50	$6.65
House and Garden	" 3.00	
Any class 8 may be substituted.		

		OUR PRICE
Independent	1 yr. $2.00	
Recreation or Appleton's	" 1.50	$4.70
Outing or Reader Magazine	" 3.00	
Or any class B magazine.		

		OUR PRICE
Lippincott's	1 yr. $2.50	
Cassell's or Recreation	" 1.50	$4 15
Cosmopolitan	" 1.00	
Or any one of class A.		

		OUR PRICE
Ainslee's Magazine	1 yr. $1.80	
Metropolitan Magazine	" 1.80	$4.50
Outing Magazine	" 3.00	
Or any class B magazine.		

		OUR PRICE
Outing Magazine	1 yr. $3.00	
Metropolitan Magazine	" 1.80	$6.40
Harper's or Leslie's Weekly	" 5.00	
Or Scribner's or Kermaic Studio.		

		OUR PRICE
American Boy	1 yr. $1.00	
Pearson's Magazine	" 1.50	$3.30
Pictorial Review	" 1.00	
Or any class A magazine.		

		OUR PRICE
American Inventor	1 yr. $1.00	
Scientific American	" 3.00	$4.80
Automobile Magazine	" 2.00	
Or any class A magazine.		

		OUR PRICE
World To-day	1 yr. $1.50	
Etude (for music lovers)	" 1.50	$3.65
Recreation or Pearson's	" 1.50	
Or any class 4 magazine.		

		OUR PRICE
Century Magazine	1 yr. $4.00	
Current Literature	" 3.00	$7.65
Cassell's or Appleton's	" 1.50	
Or any class 4 magazine.		

		OUR PRICE
Putnam's Magazine	1 yr. $3.00	
Country Life in America	" 4.00	$7.15
Good Housekeeping	" 1.00	
Or any class A magazine.		

		OUR PRICE
Children's Magazine	1 yr. $1.00	
Etude (for music lovers)	" 1.50	$3.65
Appleton's or Pearson's	" 1.50	
Or any class 4 magazine.		

		OUR PRICE
Harper's Magazine or Weekly	1 yr. $4.00	
Reader or Outing	" 3.00	$7.40
Lippincott's Magazine	" 2.50	
Or any class 6 magazine.		

		OUR PRICE
Outing Magazine	1 yr. $3.00	
World To-day	" 1.00	$4.15
Ainslee's Magazine	" 1.80	

		OUR PRICE
Home Needlew'k Magazine	1 yr. $0.75	
Pictorial Review	" 1.00	$2.65
Modern Priscilla	" .50	
Or any class C magazine.		

		OUR PRICE
Good Housekeeping	1 yr. $1.00	
Cassell's or Recreation	" 1.50	$3.00
Ladies' World	" .50	
Or any class 2 magazine.		

		OUR PRICE
Independent	1 yr. $2.00	
Musician	" 1.50	$4.70
Outing Magazine	" 3.00	
Or any class B magazine.		

		OUR PRICE
Outdoor News (illustrated)	1 yr. $2.00	
Burr McIntosh	" 3.00	$5.00
Woman's Home Companion	" 1.00	
Or any class A magazine.		

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Little Folks (new subscriber)	1 yr. $1.00	
Woman's Home Companion	" 1.00	$2.65
Modern Priscilla	" .50	
Or any class C magazine.		

		OUR PRICE
World To-day	1 yr. $1.50	
Recreation or Pearson's	" 1.50	$3.30
Woman's Home Companion	" 1.00	
Or any magazine in class A.		

		OUR PRICE
Musician or Etude	1 yr. $1.50	
Home Magazine	" 1.00	$3.00
McCall's Magazine	" .50	
Or Housekeeper or any class C.		

		OUR PRICE
The Reader or any class B	1 yr. $3.00	
Keith's or any class 4	" 1.50	$4.00
Success Magazine	" 1.00	
Or any class A magazine.		

		OUR PRICE
What to Eat	1 yr. $1.00	
Harper's Bazar	" 1.00	$2.95
Pictorial Review	" 1.00	
Or any class A magazine.		

		OUR PRICE
American Boy	1 yr. $1.00	
National Magazine	" 1.00	$3.40
Cassell's Little Folks	" 1.50	
Or any class B magazine.		

		OUR PRICE
Cassell's or Quiver	1 yr. $1.50	
American Magazine	" 1.00	$3.65
Broadway Magazine	" 1.50	
Or any class 4 magazine.		

		OUR PRICE
Children's Magazine	1 yr. $1.00	
Home Needlew'rk Magazine	" .75	$2.30
Or any class A magazine.		

		OUR PRICE
Burr McIntosh	1 yr. $3.00	
Scribner's Magazine	" 3.00	$6.65
Metropolitan Magazine	" 1.80	
Or any class E magazine.		

		OUR PRICE
Suburban Life	1 yr. $1.50	
McClure's	" 1.00	$4.30
Delineator	" 1.00	
World's Work	" 3.00	

		OUR PRICE
Suburban Life	1 yr. $1.50	
Woman's Home Companion	" 1.00	$3.65
Review of Reviews	" 3.00	

		OUR PRICE
Suburban Life	1 yr. $1.50	
World To-day	" 1.50	$2.95
Cosmopolitan	" 1.00	

		OUR PRICE
Suburban Life	1 yr. $1.50	
Woman's Home Companion	" 1.00	
Cosmopolitan, American Magazine, Harper's Bazar, or Success may be substituted.		$2.30

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(For the convenience of those who do not find such a Club as they want above.)

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American Agriculturist	$1.00
American Boy	1.00
American Inventor	1.00
American Magazine	1.00
American Primary Teacher	1.00
Automobile Magazine	2.00
Baby	1.00
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Browning's Indust'l Magazine	1.00
Business Man's Magazine	1.00
Camera Craft	1.00
Children's Magazine	1.00
Cosmopolitan	1.00
Cycle and Auto Trade Journal	1.00
Educational Gazette	1.00
Engineering Review	1.00
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Garden Magazine (Dou-Page)	1.00
Gleanings in Bee Culture	1.00
Good Health	1.00
Good Housekeeping	1.00
Health	1.00
Health Culture	1.00
Hints	1.00
Home Magazine	1.00
Home Needlework (bi-m.)	.75
Interior Decoration	1.00
Inventor	1.00
Kindergarten Magazine	1.00
Kindergarten Review	1.00
Little Folks, Salem	1.00
Metropolitan	1.50
National Magazine	1.00
Ohio Farmer	.75
Orange Judd Farmer	1.00
Out Doors	1.00
Pacific Monthly	1.00
Philistine	1.00
Photo American	1.00
Photo, Beacon	1.00
Photo Era	1.50
Photographic Times	1.00
Physical Culture	1.00
Pictorial Review (with pattern)	1.00
Pilgrim	1.00
Popular Educator	1.00
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Success	1.00
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After Jan. 1 add 35 cts.	
Table Talk	1.00
Technical World	1.00
Teacher's World	1.00
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Travel Magazine	1.00
Waverly	1.00
What To Eat	1.00
Woman's Home Companion	1.00
World's Review	1.00
World To-day	1.50
Young's Magazine	1.00
Youth	1.00

Class B

Amer. Monthly Rev. of Reviews	3.00
Automobile	2.00
Ihdependent	2.00
Motor Way	2.00
Out Door News	2.00
Outing	3.00
Printer's Ink	2.00
Reader Magazine	3.00
Review of Reviews	3.00
Short Stories	1.00
Trained Nurse	2.80
Yachting	3.00

Class C

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Housekeeper	.60
Ladies' World	.50
McCall's and Pattern	.50
Modern Women	.50
Modern Priscilla	.50
New Idea Woman's Magazine	.50
Vick's Magazine	.50
World's Events	.50

Class 3

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Bob Taylor's	1.00
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Pathfinder	1.00
Red Book	1.00
Teachers' Magazine	1.00
Technical World	1.00

Class 4

American Botanist	1.00
Appleton's Magazine	1.50
Cassell's Magazine	1.50
Cassell's Little Folks	1.50
Cassell's Quiver	1.50
Breeder's Gazette	2.00
Broadway Magazine	1.50
Etude	1.50
Humorist	2.00
Keith's Magazine	1.50
Little Chronicle	1.50
Musician	1.50
Our Times (52 weeks)	1.20
Overland Monthly	1.55
Pearson's Magazine	1.50
Ram's Horn	1.50
Recreation	1.50
School and Home Education	1.25
Table Talk with Cook Book	2.00
Watson's Magazine	1.50

Class 5

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Junior Toilettes	1.50
Our Day	2.00
Out Door Life	1.50
Pennsylvania School Journal	1.60

Class 7

Current Literature	3.00
Out West	2.00
School Science	2.00

Class 8

Burr McIntosh	3.00
House and Garden	3.00
Indoors and Out	3.00
Journal of Education	3.50
School Journal	2.50

You may add to any Club

Ladies' Home Journal	(1 yr.)	$1.50
Saturday Evening Post	"	1.50
Century	"	3.75
St. Nicholas	"	2.65
Harper's Weekly or Monthly	"	3.35
Leslie's Weekly	"	3.35
Atlantic Monthly	"	3.35
Scribner's Magazine	"	3.00
McClure's Magazine	"	1.00
Delineator	"	1.00
Gleanings in Bee Culture (if not selected as a Class A paper)	"	1.00

Any two Class A	$1.85
Any three Class A	2.30
Any four Class A	2.95
Any one Class A, one Class C	1.35
Any one Class A, two Class C	1.70
Any two Class A, one Class C	2.00
Any two Class A, two Class C	2.35
Any two Class A, one Class B	3.00
Any one Class A, one Class 3	1.75
Any one Class A, two Class 3	2.50
Any two Class A, one Class 3	2.40
Any two Class A, two Class 3	3.15
Any one Class A, one Class 4	2.00
Any one Class A, two Class 4	3.00
Any two Class A, one Class 4	2.65
Any two Class A, two Class 4	3.65
Any one Class A, one Class 5	2.25
Any one Class A, two Class 5	3.50
Any two Class A, one Class 5	2.90
Any two Class A, two Class 5	4.15
Any two Class A, one Class 7	3.40
Any two Class A, two Class 7	5.15
Any one Class A, one Class 8	3.00
Any two Class A, one Class 8	3.65
Any two Class A, two Class 8	5.65
Any two Class 3	1.85
Any three Class 3	2.60
Any one Class 3, one Class C	1.45
Any one Class 3, one Class A	1.75
Any one Class 3, one Class 4	2.10
Any one Class 3, one Class 5	2.35
Any two Class 3, one Class B	3.20
Any two Class 4	2.35
Any three Class 4	3.35
Any four Class 4	4.35
Any one Class 4, one Class C	1.70
Any one Class 4, one Class A	2.00
Any one Class 4, one Class 5	2.60
Any two Class 4, one Class B	3.70
Any two Class 5	2.85
Any one Class 5, one Class C	1.95
Any one Class 5, one Class A	2.25
Any one Class 5, one Class 3	2.35
Any one Class 5, one Class 4	2.60
Any one Class 5, one Class B	3.00
Any two Class B	3.05
Any three Class B	4.40
Any four Class B	5.75
Any one Class B, two Class A	3.00
Any one Class B, two Class 3	3.20
Any one Class B, two Class 4	3.70
Any one Class B, one Class 5	3.00
Any one Class B, one Class 7	3.45
Any one Class B, one Class 8	3.70
Any two Class B, one Class C	3.40
Any two Class B, two Class C	3.75
Any two Class B, one Class A	3.70
Any two Class B, two Class A	4.35
Any two Class B, one Class 3	3.80
Any two Class B, two Class 4	5.05
Any two Class B, one Class 4	4.05
Any two Class B, two Class 4	5.05
Any two Class B, one Class 5	4.30
Any two Class B, two Class 5	5.55
Any two Class B, one Class 7	4.80
Any two Class B, two Class 7	6.55
Any two Class B, one Class 8	5.05
Any two Class B, two Class 8	7.05
Any two Class 7	3.85
Any three Class 7	5.60
Any two Class 8	4.35
Any three Class 8	6.35

Any one A, Any one B, Any one 4 ..... **3.35**

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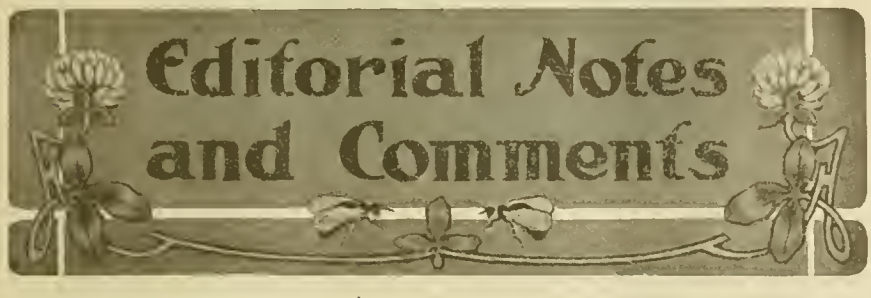
GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 3, 1907 | Vol. XLVII—No. 1



Effect of the Pure Food Law

When we were in the honey-bottling business, a few years ago, we sold to a number of the wholesale grocers. Recently we received the following letter from one of them:

GEORGE W. YORK & CO.—

Gentlemen:—The Pure Food Law enacted by Congress, taking effect Jan. 1, 1907, provides severe penalties for dealers who handle articles of food or drugs adulterated or misbranded.

In accordance with the provisions of the law, which exempts from prosecution those who procure a proper guaranty, we are requiring all from whom we purchase articles of food or drugs to execute a proper guaranty, and enclose herewith our regular form. It is essential that all blank spaces be properly filled in, and that the signature be in accordance with the directions on the form.

Please duly execute and return promptly to us. Very truly yours,

ROCKWOOD BROS. CO.

The "form" referred to in the above reads aa follows:

FOOD GUARANTY.

The undersigned,....., of....., State of....., United States of America, does hereby warrant and guarantee unto

ROCKWOOD BROS. CO.,

having principal office at Chicago, Ill., that any and all articles of food or drugs, as defined by the Act of Congress approved June 30, 1906, entitled

"An Act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes."

which the undersigned has sold since Oct. 1, 1906, or shall at any time hereafter prepare, manufacture for, sell or deliver to said

ROCKWOOD BROS. CO.,

will comply with all the provisions of said Act of Congress, and are not and shall not be in any manner adulterated or misbranded within the meaning of said Act.

It is expressly understood that this shall be a continuing guaranty until notice of revocation be given in writing, and notice of acceptance of the guaranty is hereby waived.

Dated at.....this.....day of.....19....

.....SEAL.

.....SEAL.

1. Must be signed with full name of individual.
2. If a firm, sign the drm name followed by name of partner executing document.
If a corporation, must be signed by proper officer, and corporation seal attached.

It seems that wholesale grocers do not mean to take any chances in the matter of handling any adulterated or misbranded goods hereafter. They know the Pure Food Law has teeth in it that are sharp, and that the Law will be enforced to the letter.

A new day for pure honey is apparently dawning. We look for a greatly increased demand for it hereafter, and believe that the prices will soon be advancing. What bee-keepers should do now is to let the people know the special food values of honey through the newspapers and magazines. To many, such information would be "news," indeed.

We are expecting, in the very near future—say 2 or 3 years—to see such a demand for honey that it will take every pound produced, within 6 months after the close of the honey harvest each year. Bee-keeping is not overdone. But general consumption of pure honey has been "underdone" for years, on account of adulteration and misbranding.

Let the National Pure Food Law have its chance, and then the producers of pure honey will have their chance, for which they have been waiting so long.

Love in the heart is better than honey in the mouth.—*Proverb.*

Irish Bee Journal and Age of Queens

Exception was taken in these columns to the teaching of the Irish Bee Journal in favor of "having every season, a young queen of the previous year's rearing, to head each colony," as that was understood to mean that the right thing would be to replace every queen when a year old; and it seemed an unsolvable puzzle to understand why the Irish Bee Journal should attempt to fortify its position by quoting authorities which plainly advocated that a queen was good for 2 years' work. The solution of the puzzle is now at hand. Our Irish contemporary says in the December number:

The question between us is, What is meant by "a queen of the previous year's rearing?"

Let us see. Take the case of a queen born on May 1, 1906. On April 30, 1907, she will be a year old. Does Mr. Maguire teach that she must then be killed? By no means. Let us go farther. On Sept. 30, 1907, she will be 1 year and 5 months old. Must she then be killed? No. She is still "a queen of the previous year's rearing." On April 30, 1908, she will be 2 years old, but still "a queen of the previous year's rearing." Her year began not on Jan. 1, 1906, but on May 1, 1906. She is safe from the headsman, so far. Even if we allow that her year began on Jan. 1, 1906, 4 months before her birth, she will answer Mr. Maguire's requirements up to Dec. 31, 1907, when she will be 1 year and 8 months old. We, therefore, claim for our contributor that, at the very least, he is free of the charge of having taught that "each queen when it becomes a year old should be destroyed," and is, thus far, in strict agreement with the authorities.

It makes one the least bit dizzy to understand how a queen 2 years old can be a "queen of the previous year's rearing," for in this locality the phrase "a queen of the previous year's rearing" is generally equivalent to "a last year's queen;" and until the foregoing quotation appeared it never occurred to us that there was any question between us as to the meaning of the phrase.

This, however, is a very small matter, and it is a real pleasure to know that there is no greater difference between us than a different understanding of the meaning of a few words. Not knowing before this that there was any different understanding as to the meaning of words, of course no exception was taken in that direction. The Irish Bee Journal may charge us with thick-headedness in not understanding correctly the English language

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but when it understands that we were honestly of the opinion that it was advocating that no queen should ever be allowed to live until 2 years old, it may possibly absolve us from the charge of hypercriticism in objecting to such advocacy. It is a thing to be desired to be in accord so far as possible with our bright contemporary.

Shipping Comb Honey

We were recently requested to call and examine a shipment of about 160 cases of comb honey that was received from a Wyoming bee-keeper by a Chicago honey-dealer. It was fine alfalfa honey, put up in the usual 24-pound shipping-cases, and then two of the cases were fastened together by light strips at the corners, thus making each package between 50 and 60 pounds. That was all the preparation made to ship that honey perhaps 1500 miles.

Well, it arrived just as any experienced shipper of comb honey would expect—fully half of the combs broken out of the sections.

We do not find that particular shipper's name among the readers of the American Bee Journal, or he would have known better than to ship comb honey in the way he did. Doubtless he doesn't read any bee-paper. But he probably has lost enough on that one shipment of honey to pay his subscription to all the bee-papers in this country for the next 25 years.

We have so often published explicit directions for preparing comb honey for shipment that it would seem hardly necessary to tell it again, but we find that on account of the many new readers that are constantly being added to our list, it is well to repeat important directions that, if heeded, may mean the saving of many dollars to a number of our readers.

After comb honey has been put in shipping-cases, the cases should be put into crates, or carriers, holding from 6 to 9 of the shipping-cases. But before putting the cases into a crate, there should be put in the bottom from 4 to 6 inches of straw or hay, to act as a cushion under the cases of honey.

Then after filling the crate with cases, put the cross boards on top, and also this sign, either printed or written in plain letters:

COMB HONEY. HANDLE WITH CARE.

Near the upper sides of the crate should be nailed on pieces of boards about 4 inches wide, and long enough so as to extend out at the ends of the crate about 4 or 6 inches. These extensions will serve as handles for the train-men to carry the honey when loading and unloading it.

We have never known of any loss in shipping comb honey when prepared as we have briefly outlined here. It seems too bad to lose heavily on a shipment of honey just because it was improperly prepared, especially when it is so simple and inexpensive to put it into the right shape for safe carrying either on cars or wagons.

The illustration herewith shows quite clearly how a crate of comb honey appears when ready for shipment either a long or a short distance on the railroad.

SUITABLLE CRATE CONTAINING CASES OF COMB HONEY FOR SHIPMENT.

Miscellaneous News-Items

Volume XLVII begins with this number of the American Bee Journal. The last volume (1906) contained the most and best bee-literature that has appeared in its columns in all its history. And there were in all 1060 larger pages than in any other bee-paper published to-day. All being well, this new volume promises to be even better than the last one. We hope that not only will all the present list of readers continue right along, but that each one may try to get some neighbor bee-keeper to become a subscriber. Remember, that neither the American Bee Journal nor its editor is connected in any way with any bee-supply business, so the Journal is entirely independent; and that it must depend upon receipts from subscriptions and advertising for support.

Some San Antonio Pictures, taken by Mr. Fred W. Muth, of Cincinnati, Ohio, appear on the first page. The upper one is a view of San Antonio, taken from Market Hall where the National convention was held. The lower picture represents 5 weary bee-keepers who were resting at the side of a clump of banana bushes. We only wish we could show the beautiful, broad, green leaves as they really appear. We had never seen bananas growing before, but there are plenty of them around San Antonio.

San Antonio is a Spanish-American city of some 70,000 population. It has many things of great historic interest. Several very ancient missions are located within a few miles, and The Alamo, right in the heart of the city, is a spot that few visitors fail to see. Within its walls it was, during the war with Mexico, that less than 200 United States patriots held at bay some 4000 soldiers under Santa Ana, and although a mere handful in The Alamo, they slew about 1500 of Santa Ana's men before they were overcome and every one of their number killed.

Several of the Northern bee-keepers had their kodaks with them, and "took" many objects of interest in and around old San Antonio, which pictures will no doubt be greatly prized by their owners, as it was a trip and visit long to be remembered.

An Announcement has been received at this office of the marriage at Medina, Ohio, on Dec. 26, 1906, of Miss Carrie B. Root, youngest daughter of A. I. Root, and Mr. L. W. Boyden, manager of the A. I. Root Company's New York City branch office. This is the second "combination" of the kind, another daughter of A. I. Root having married Mr. A. L. Boyden, an older brother of "L. W.'s," some years ago. "A. L." is secretary of the A. I. Root Co.

Our sincerest congratulations are hereby extended to Mr. and Mrs. L. W. Boyden, and wishes for a long and happy voyage through life together.

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How Many Colonies to Become Well-to-Do?

BY C. P. DADANT.

On page 880, (1906), Mr. Doolittle asks, "How many colonies should we keep to become well-to-do?" and requests an answer from Dr. Miller, Hutchinson, myself, or others. On page 964, (1906), H. H. Moe reminds us of this question, and gives his views.

It is quite a long time since I "sparred" with Mr. Doolittle. I am not one of the "sparring" kind, unless I can see some gross error to redress, and the present subject is too indefinite to give any one a fair chance for discussion.

Perhaps the best thing I can do to answer the question is to cite my own experience. Mr. Moe says that each of us has what he calls a "prop" in addition to the bees, to keep us going. In the early '70's I had no such prop. It is true, we were rearing queens, and selling a few. But is not this legitimate bee-keeping? Must the bee-keeper sell only honey? Is not the sale of colonies or queens a legitimate part of bee-culture? For a number of years, I had nothing else. I can remember several seasons when we harvested from 40,000 to 50,000 pounds of honey. How many colonies did we keep? From 150 to 600. The manufacture and sale of comb foundation was just an accident—a result of conditions. We had bought a mill to make up our own wax, and it turned out that we could work our neighbors' wax and give them better satisfaction than any other, and so the business was built. But bee-keeping as a business was my principal ooccupation for some 15 years, and as I have already said, in the American Bee Journal, there was a time, when, if any one else had been entrusted with the care of any of our apiaries, I would have expected those bees to be entirely ruined. I got bravely over this notion quite a while ago.

How many colonies must we keep to become well-to-do? Why, it depends upon the apiarist, on the location, on the methods followed, on our greater or less ability to manage our affairs, etc. It takes a less number of colonies, when running for comb honey, than when producing extracted honey; but those colonies require more care. It takes less bees in a good locality than in a poor one, and yet the bee-keeper is more likely to keep many bees in a good locality than in a poor one. Locality is certainly a very important matter in securing a well-to-do occupation. In the alfalfa plains of Colorado, among the mesquite brush of Texas, in the sage-covered hills of California, the bee-keeper will keep just as many colonies as he can care for, and will become well-to-do, if he exercises judgment. But how many colonies can he keep? That depends entirely upon his skill, his ambition, his wit, his health.

I have seen bee-keepers who would spend two hours in overhauling half a dozen colonies, and I have seen others who could tell you the condition of 25 hives in the same length of time. Yet the slow man might succeed as well as the quick man, if his needs were no greater than his speed. Let two men start in bee-keeping in this State. Let one of them be located among the corn-fields, the wheat and timothy fields, and let the other be in close proximity to a large dairy farm with a hundred acres of pasture in which clover abounds. Do you not see that the latter will have a much better opportunity, all other things being equal, to become well-to-do, than his less fortunate brother?

But take two men in similar locations. Let one of them watch his 100 colonies daily, supply their needs as soon as discovered, replace worthless queens, keep out worthless drones, attend to all details minutely; and let the other keep three times as many bees, and pay but little attention to them, and the latter is as likely as the former to succeed—probably more likely.

I think I have said enough to show that it is impossible to give a stated number of colonies of bees as either required or sufficient to render their owner well-to-do. So I throw the question back for Mr. Doolittle to answer, though I feel certain that his reply will be very similar to mine.

But should we encourage or discourage bee-culture? I do not think we have the choice. We are writing for bee-papers. The readers are keepers of bees, and they are entitled to know from those who endeavor to teach them, their very best thoughts, their most experienced recommendations. I have read complaints from people who think there are too many bee-keepers, and who would make it a crime for any one to encourage beginners. Those persons would make a failure in any avocation. If we were to believe them, there are too many doctors, too many lawyers, too many mechanics, too many farmers. But this is not true. There are not too many farmers as long as there is an acre of land that remains uncultivated. There are not too many bee-keepers as long as honey is wasting for want of harvesting bees. There are drawbacks, bad seasons, in every pursuit, but whether we are farming, or keeping bees, let us try to follow the best methods, and be ready to take advantage of the bountiful harvest when it comes. We have just gone through a bad season, that is the time to make ready for good crops. After the years of famine come the years of plenty.

The question as I see it is not, How many colonies of bees shall we keep? but, How can we make the best success with the bees that we do keep?

Hamilton, Ill.

Good Season—Methods of Making Increase

BY F. L. DAY.

The season of 1906 was a fairly good one in this locality in spite of the fact that basswood, which is usually our chief source of surplus, was almost a total failure. A late frost appeared to kill most of the buds so that only a few trees blossomed. White clover, on the other hand, was unusually abundant and yielded well.

My 28 colonies were increased to 43 full ones, besides 4 queen-rearing nuclei. I secured 2,600 pounds of honey, all but 80 pounds being extracted. For the nuclei, I used regular 10-frame hives with a partition in the middle, thus leaving room for 4 frames on one side and 5 on the other. My idea was to take one frame of brood with adhering bees and the queen from each of these nuclei and put in any colony where needed. This was the theory, but in practice I got only a very few laying queens from these nuclei during the whole season; but by placing choice queen-cells in West cell-protectors, with the spiral cage attached, and then hanging these between the frames of the 4 nuclei, I secured plenty of fine virgin queens. These were then introduced wherever needed, with fair success.

In making my increase of 15 colonies, I used both the nucleus and Alexander plans. From 5 colonies using the nucleus plan I secured 11 new colonies and 515 pounds of honey. Four colonies run by the Alexander plan gave me 4 new colonies and 475 pounds of honey. The nucleus plan gave me 220 per cent increase and 103 pounds of honey per colony. The Alexander plan gave only 100 per cent increase and 118 pounds of honey per colony.

The 4 queen-rearing nuclei were made from one of the 5 colonies used for increase. They would probably have produced enough honey if used for that purpose, to have made the 5 original colonies produce as high an average as the 4 worked on the Alexander plan. This makes the two plans about equal for honey-production, with the nucleus plan giving over double the increase that the Alexander plan did. Had we had our usual amount of basswood honey, the nucleus plan would have been far ahead in honey-production as well as increase, just as it was last year.

The Alexander plan undoubtedly has merit, but in this locality the lower story left on the old stand almost always becomes a most persistent swarmer, even though the upper story be removed 5 or 6 days after the preparations of the

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colony. What we want to know about these matters is the truth without favor to any man's plan or hobby. Because one man's way is good for him in his own locality, it does not necessarily follow that every bee-keeper in all our broad land should be considered ignorant or stupid because he does not have so good success with the plan in question.

I notice that Dr. Miller's bees were cellared on Nov. 19; mine were put in on the 20th. Last year we both put them in the same day, that is, on Nov. 29. I am sorry he could not have had so good a crop in proportion to his large number of colonies as I did from my small number. I always enjoy his writings in the American Bee Journal and Gleanings, and hope they may be continued many years. I also have his book. I hope we may all have a prosperous season next year.

Detroit, Minn.

Best Size of the Pound-Section

BY L. V. RICKETTS.

Having read with great interest the article by Mr. T. K. Massie, page 783 (1906), on the subject of "Best Size of Honey-Section," I will again attempt to write on the same subject. Mr. Massie and I, as well as some others, have for some time been advocating the use of a section large enough so that when fairly well filled with separatored honey will weigh an average of 16 ounces. The one now in most general use—the 4¼x4¼x1⅞ bee-way section—weighs an average of only 14 2-3 ounces when filled as above stated.

Mr. Massie rather favors a plain section, to be used with some form of separator furnishing the bee-way. From the experience that I have had with both bee-way and plain sections, I prefer the former. The fence-separator costs more than the slotted wood, and as Mr. Massie says, "Some of them are very flimsily made, and do not last long."

However, it is results that we want, and in this case a heavier section of honey is the result that we are after, and it matters but little whether we use a bee-way or a plain section in obtaining it. The size, weight, and thickness of the comb in the sections are the main things to be considered.

After having very carefully considered the matter, I have concluded that a comb 1⅜ to 1½ inches thick is the best for section honey. With a bee-way section 1⅞ inches thick, used with slotted wood separators, we will get combs of the above thickness. As stated by me in previous articles, and as proven by experiments made during the season just past, I have come to the conclusion that the 4¼x4⅝x1⅞ bee-way section (all things considered) is the best size of honey-section, and will come as near to giving us an average of 16 ounces of separatored honey as we are likely to get.

When writing on this subject of the weight of sections and selling honey by the piece or pound, page 633 (1906) among other things, Editor York says, "Every little while, some one to whom the question is new appears on the scene with what he thinks is a satisfactory solution of the troublesome problem, and says, The whole thing is easy; just adopt that size of section which shall weigh an exact pound, and then it will make no difference whether the section is sold by the piece or pound." To this Mr. York says, "But when he attempts to produce a ton of honey with 2000 sections, each weighing an exact pound, he finds himself running against a snag." Our goood Editor concludes by saying that the present object was only to show "that to find a section of such size that it shall always weigh an exact pound is one of the things that may be dreamed of, but never attained in actual practice." My only objection to the above is that it appears to convey the idea that those who are advocating the use of a section larger than the ones now in general use, are expecting to get a section in which the bees will always store an exact pound of honey. This, however, is not the case. Here are the facts:

The sections now in most general use, when fairly well filled with separatored honey—sections that would grade No. 1, as to filling—do not average more than 14 2-3 ounces. Now the question is, Would it not be better for both the producer and consumer, if bee-keepers in general would adopt a section which when filled as above would average about 16 ounces each, or 2000 such sections to weigh a ton, or a very few pounds more or less, instead of being 150 to 200 pounds short in weight, as is the case with the sections now in general use? There is no use to say it can't be done, for it can. The question is, Would it be best to make such a change? If best, then what size of section should we adopt?

After having very carefully considered the matter from many standpoints, I have come to the conclusion that there is no better size of section than the 4¼x4⅝x1⅞ bee-way section; or for those who prefer a plain section and fence separator, the 4¼x4⅝x1½ plain section will give the same results. Either of the last-named sizes of sections should give us a comb 1⅜ to 1½ inches thick, which, as before stated, is as near the right thickness for section honey as we could desire.

Pullman, Wash.

First Things for the Bee-Keeping Novice

BY G. M. DOOLITTLE.

"I am a beginner in bee-keeping and have been persuaded to take the American Bee Journal, and in it I see that you sometimes answer questions if they are sent you. I wish you would tell us through the Journal's columns what you consider the prime thing a novice or a beginner in bee-keeping should know first. What is the main thing in bee-keeping necessary to know?"—CORRESPONDENT.

There are very many things in bee-keeping which are considered of first importance, and the novice should understand all of these, if he or she would be successful.

Perhaps the first thing that should be done by any beginner would be the reading of some one of the many good books on bee-keeping, such as "Langstroth on the Honey-Bee," Root's "A B C of Bee-Culture," Cook's "Bee-Keepers' Guide," Quinby's "Practical Bee-Keeping," etc. Having procured one of these books, carefully read it two or three times till the whole is as familiar to you as a nursery rhyme, from beginning to end, when you are ready to subscribe for, and read intelligently, one or more of the several good bee-papers published in America. Now, don't think that this is unnecessary to success, for it is necessary that you have some knowledge of the first principles of bee-keeping before you start out with the bees, if you are to take first rank as an apiarist.

Having gotten so far, I will tell you one of the many other things you will need to know, for on this hangs very much of that which will bring prosperity. In nearly all localities where bees can be kept there are certain plants and trees which give a yield of surplus honey at a certain time of year, while, aside from this, there is little more honey obtained by the bees than is needed to supply their daily wants. Some localities give a surplus at three stated periods, others at two, while the majority give only one such yield. Hence it must be apparent to even the novice, that if such a yield (or yields) pass by without any surplus, none can be obtained during the season. From this it will be seen that, in order to be a successful apiarist, a person must have a knowledge of his locality, and also know how to secure the laborers (bees) in the right time, so they can be on hand when the honey harvest is at its best. Failing to do this, there is little or no profit in apiculture, and my main reason for writing on this subject is that those who read may obtain the best results from their bees.

Practically, first, then, we must have a thorough knowledge of the *first* principles of bee-keeping; and, second, we have the *location*.

Here in Central New York our honey crop comes mainly from basswood, which blooms about July 3d to 12th, and lasts from 10 days to 3 weeks, according to the weather while it is in bloom. In other localities in this State white clover is the main crop, coming in bloom June 15th to 20th; and again in others, buckwheat, yielding nectar the last of August, while a few apiarists are blessed with a yield from all three. But as a larger part of those living in the Northern States have a yield of honey from basswood, I will speak of that as the harvest in illustrating what I wish to do. Bear in mind, however, that it devolves on the *reader of this* to ascertain by careful investigation just when and what is the source of nectar from which his surplus honey comes, so as to work accordingly.

After having determined from what and when we may expect our harvest of honey, the next step is to secure the bees in *just* the right time for that harvest. If you have a field of grain to cut, you hire the laborers just when the

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grain is *ripe*, not before or afterwards. Everybody knows about this, yet in bee-keeping thousands pay no attention to this matter of securing laborers in time for the harvest, and then wonder why they secure only a meager return from their bees. Working thus, their bees, instead of becoming producers, far more often become consumers, as the tendency of bees, when left to themselves, is to produce the greatest amount of brood when the harvest is in its prime, rather than before it. Consequently, this greatest amount of brood emerges into bees just after the harvest has passed by, and thus have to be fed all through their lives from the supply of honey gathered by the few, while the many were in the brood form. I wish I could so emphasize this that it would "strike home" to every bee-keeper, be he novice or otherwise.

The queen is the mother of all the bees in a colony, she laying all the eggs producing them. Under the greatest stimulation she is capable of laying from 3,000 to 4,000 eggs a day, yet often she is laying only from 500 to 800 eggs daily at the time she should be doing her best. After the egg is laid it takes about 3 days for it to hatch into a larva. This larva is fed about 6 days, during which time it has grown to nearly fill the cell, when it is capped over and remains hid from view for nearly 12 days more, when it emerges a perfect bee. When every thing is in a normal condition, this bee works inside the hive for 16 days, doing such work as feeding the larvæ, building comb, evaporating nectar, etc., when it is ready to go out of the hive as a field-laborer; and at 45 days, during the working season, from the time of emerging, it dies of old age, and another generation takes its place.

From the above it will be seen that the egg must be laid at least 37 days before the honey harvest, in order that our bee has the opportunity of laboring in that harvest to the best advantage. Now, if the harvest is basswood, commencing to bloom, say July 7th, the egg for our laborer should be laid on or before June 1st.

But how shall we secure the laying of the eggs just when we want them? There are several ways of doing this, such as feeding the bees thin sweets when you wish the queen to lay more prolifically; giving young bees from other colonies that will feed the queen an extra amount of egg-producing food; spreading the brood, etc. But I will speak here only of the plan which I have used more lately to give a success greater than anything else which I have tried, taking everything into consideration. It is this:

About 40 to 45 days before the expected honey-harvest see that each colony has stores enough to make the bees feel very rich, so much so that there is no thought of any retrenchment; in fact, so that they can say "millions of honey at our house," and keep saying it all the time they are feeding it to the brood; when you will see that the queen will be fed so that the combs will be teeming with eggs as fast as the honey is removed from the cells to feed the brood hatching from those eggs. A few days of cold or rain will not stop this brood-rearing, as it does when the colony is living from "hand to mouth," as is more often the case than otherwise, where no attention is paid to this matter. As to where this feed should come from, it is easy to set aside full combs of sealed honey from the extracting supers the season before, instead of extracting from them.

Borodino, N. Y.

Conducted by EMMA M. WILSON, Marengo, Ill.

Lady Bee-Keepers and Large Hives

On page 962, Mr. T. F. Bingham says: "I often wonder how the lady bee-keepers get along with the massive hives generally used." Just why he thus wonders he does not say; but it is probably fair to suppose that he has reference to the greater weight of such hives as compared with his own, and the feebler lifting powers of the sisters as compared with those of the sterner sex.

There is no question that it is a desirable thing to make the work of bee-keeping as light as consistent, and the matter that he suggests is well worth considering. Ought the sisters to have hives smaller than those in general use? At the outset comes the objection so strongly emphasized generally, that it is a bad thing to have odd-sized goods. But if all the sisters should use a hive of a particular pattern or style, would there not be enough of them to make it worth while for manufacturers to keep on hand a line of "Ladies' Hives," just as a line of "Ladies' Goods" may be found in the stores?

Suppose, however, that such a hive were agreed upon, and some sister wishing to enter the ranks of bee-keepers should desire to purchase a colony or two of bees with which to make a start, Of course she would want her bees in the kind of hive she expected to adopt; at least she would want the frame of the right size, and to have anything lighter than "the massive hives generally used" would require a smaller than the Langstroth frame; for to use less than 8 Langstroth frames in a hive is hardly a thing to be considered. Then to get her bees on "ladies' frames" she would be obliged to buy only of some sister, and sisters that keep bees are not always near at hand. Those near Mr. Bingham would, however, be specially favored. Again, if she would wish to sell, she could only sell to some sister, thus being handicapped whether she wants to start or stop.

But are we not told that the smaller hives are used because hives and not frames should be handled? Would it be any lighter work to handle a whole hive — even so small a hive as that of Mr. Bingham—than to handle the separate frames of Langstroth size?

On the first cover-page of the American Bee Journal for Nov. 22, is a very interesting picture of some of Mr. Bingham's hives. Would it be the lightest kind of work to lift down that 8th story? and wouldn't it be a rather precarious business to use a ladder to get to the top of pile?

All this talk, however, is more or less theoretical. Mr. Bingham's knowledge of small hives is obtained from actual practise, and if he can tell us just how bee-keeping for the sisters can be improved, we will gladly give him a place in our corner, with our most respectful attention. It is generally understood that he is much given to "smoking;" but there need be no fear that he would be so ungentlemanly as to smoke in the ladies' presence!.

A Plea for More Good Reading-Matter for the Home

A new year is just ahead of us—a new year christened "1907." A year? Possibly not all of it shall be ours, but what are we going to do with our allotment, be it all or only a portion of the next twelve months?

"Fill up each hour with what will last,
Buy up the moments as they go;
The life Above, when this is past,
Is the ripe fruit of life below."

Now is the time when lots of thinking is done, but of what use are thoughts and sets of newly-formed resolutions unless put into action? Why the sadness always attendant upon the departing year? Is it because our censuring conscience convinces us of having lost a part of it, or at least of not grasping or making the most of the opportunities it offered?

Strange that this feeling is repeated with each passing of a year. The question just now under consideration is, How forcibly will it put in its appearance when the time shall have arrived for the retrospection of 1907?

The young year of 1907 brings to bee-keepers that which none of its predecessors brought—protection from adulteration and misbranding of their product, through the enforcement of the Pure Food Law. Most bee-keepers, while masticating their Thanksgiving

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turkey (were they fortunate enough to be where that bird did not "roost" too high) gave thanks because of the enactment of this law; but now it is in order to return thanks that its enforcement has begun. And that the enforcement may not become *painfully real,* each honey-producer or shipper should thoroughly acquaint himself with the portion which affects the sale of our products. All bee-papers should make it a point to place it before their readers in a lucid, easy-to-be-remembered manner, as several have already done. And most certainly all bee-keepers should have the very best bee-literature.

As I gaze out on this wide, white world and its snow-hooded houses, the many shut-ins on account of the inclemency of the weather, pass in procession before my mind's eye, and I can but sympathetically wonder if all are supplied with entertainment in the way of good and helpful reading matter? The body will not more surely die from the want of bread—"the staff of life,"—than the mind will perish from want of proper nourishment.

Many who take pride in their ability to maintain a dining-table of ample proportions—daily loaded to the point of groaning, with not only the more common articles of food, but the luxuries as well—never dream that the keeping up of the reading table is of much greater importance. Custom should rule that a household without a reading table would be as much of an oddity as a household without a dining table; and that to be found upon the reading table from which the family are to be served should be, as to quality the choicest, and as to quantity, most liberal. Were such the case, we might expect the great army of wayfarers to die a natural death from want of fresh recruits. The memory of the family circle around the evening reading table has proved the beacon light that saved many a wanderer, not alone from home, but a wanderer from morality, and all that goes to make life worth living.

Stuffing the children with food for either the physical or mental being is poor policy—they most certainly should not wear glasses before teething; but a preoccupation of the mind, by interesting and useful knowledge, to the crowding out of the objectionable and positively hurtful, is to be recommended. Time was when the training of children began, and gained considerable headway, at home; now, very generally, it seems not to begin until entering the school-room. After the parent finds he has lost control, or that he never had any, he rushes to the teacher and urges that the latter shall accomplish that which he himself has found impossible. Alas! how many times it is too late, and the youth is lost in the sea of his own selfishness and obstinacy. But how few of us, of mature years, cast adrift without any directory whatever, would be fortunate enough to keep within the line of safety or reach any haven of security?

The younger people are not the only ones to be considered in the maintenance of a reading table. How many self-sacrificing women rise by the break of day, or before, and cheerfully assume their daily duties which constitute a monotonous round, the variations being so slight as not to be perceptible, and keep everlastingly at it, the reading hour being the first, and only one, to offer rest in any degree? Statistics show that 75 to 80 per cent of insane women are farmers' wives? Their loss of reason is credited to monotony of life and isolation acting with crushing effect on their minds. Sociologists point to isolation as the active agent which drains our farms of young blood, and causes the constant gravitation of our boys and girls to the cities.

None will deny but that country life is far sweeter, attractive and independent than that of the cog-wheel workers of the crowded city. But its loss of advantage, more especially in winter, lies in its sameness and lack of that which brings new influences, fresh interests, and warm inspirations into the lives of the occupants of our farm homes. For want of the latter they prefer the cities' ceaseless grind, basement or tenement; accepting starvation wages; and being constantly lashed by the whip of comparison between their lot of pitiable self-denial and dependence, and that of the independently wealthy.

Older persons, especially women, suffer alike this sense of loneliness, but circumstances preventing any change of home, they quietly accept the situation as it exists, cultivating their powers of endurance until they lose their mental poise, or until physical death steps in to relieve them of their heavy burden. The lives of such teach us there is a possibility of being patient and contented to a fault.

This condition of serfdom—for it's nothing else—would materially change, and matters adjust themselves, as it were, so that a broader and far more pleasant life—one that could be enjoyed—might yet be theirs, if they would only lend a hand to their emancipation.

Do they bring forward the claim that they are too old? Or do they offer as an excuse that they have been denied the advantages of schooling in their younger days? If the former is their cry, then they should read E. A. Daggitt's article in November Bee-Keepers' Review, which closes with these sentiments:

"To keep off old age, and to remain young, we must keep in full strength and vigor our physical, mental and moral powers. Activity is life. I think it may be safely said that the foundation of youth lies within every one. To all, I say, keep young. If old age is stealing upon you, or has stolen upon you, shake it off. Through the activity of your functions bring back the elastic step, the deep and quickened thought, and the tenderest emotion. Gradually persevere, and success will attend your efforts. Effort and determination will work wonders, and here is the richest field for their labor, with the richest promise of the greatest rewards. Again I say, be young. Dress young, act young. Be young in heart, be young in sympathy, be young in sentiment—be young, be young."

If coupled with age they extend the plea of a lack of learning in extenuation of their apathy relative to a possible agreeable change for them, they should be referred to J. E. Crane's article in December 1st Gleanings. One of his memories was of "a farmer who at the age of 70 took up the study of Latin and had the pleasure later of reading his old Latin authors." He cites the case of Owen Kildare, whose writings form books that have attracted much attention, yet he at 30 did not know his letters. He also tells us the story of the learned shoemaker who at 40 found himself in broken health, and consulted a specialist, with the result that outdoor life was recommended, with the study of botany thrown in as a diversion. In six weeks he was a well man; but so intense had his interest become in his studies, that he kept them up till he had exhausted all the text-books that would help him in this country. Then he sent to foreign countries and mastered foreign languages, in order to quench his thirst for botanical knowledge. Was not this to him an unexpected (and as agreeable as unexpected) break in a monotonous life?

Our bee-papers have many articles of like weight that should drive conviction home to the most reluctant mind. For more reasons than space permits me to recite, they should be on the reading table of every live bee-keeper.

Do you ask why I have written in behalf of the interests of women and children? My answer is, Because menfolks usually look out for themselves, and see to it that they have what reading matter they desire—more likely they expect women-folks to do the same. However, as wholesome reading matter has never been known to injure a man, he who considers himself a protector of his home should not lose sight of this particular obligation, but build up fortifications around his home with a liberal supply of interesting and beneficial reading matter.

When he goes forth these blustering winter mornings, fully equipped in the shape of snow-shoes, leggings, reefer, slicker and sou'-wester, to meet and wrestle with the storm—which wrestling of itself gives him a warm glow and renewed vigor—let him not forget the weaker and thinner clad ones—who must remain prisoners for the day, at least, and sometimes many days—that they, with him, need diversion of some kind. These "weaker vessels," as men delight to style women, have been known as the mothers of the strongest of men—giants, as it were, in either physique and intellect, or both. Strange, is it not, that such strength could possibly come of such weakness? This happy lot, will, in the future, be that of some other mothers; then happy will be the man who can conscientiously share with her the honor.

Our homes constitute the bulwarks of the nation, and the farmer being a veritable Atlas to the world, our good, old fostering Uncle Sam saw, in the deserted New England farms, of not many years ago, sure signs of national declination, and went to work with characteristic vim to apply a remedy in the shape of Rural Free Delivery of mail. Now it is "up to" every patriotic rural citizen to make the most of his privileges.

(Mrs.) Mary E. Null.

Miami, Mo.

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Conducted by Louis H. Scholl, New Braunsfels, Tex.

Value of a Note-Book in Bee-Keeping

A small tablet, or note-book, carried in the pocket daily is one of the most important things with me in doing my work. I prefer the small pencil tablets about 3x6 inches, costing about a cent a piece. From these the leaves are torn off as soon as the matter noted on them is of no more value. It is so much easier to "jot down" or make a memorandum of anything that may come up suddenly, but which would be forgotten afterward.

A wise practise, too, is to plan one's work. The day's work is planned the night before. When getting up the next morning a glance at the notes tells just what is to be done. Sometimes there are a great many little things that have to be attended to. These are all put down just as they come to my mind. In the evening I go over the list and mark all those to be attended to on the following day, and so on, day after day.

Just try such a plan, and see if it does not give more relaxation to an already overloaded brain. It also allows a person more free thought to devote to other important matters.

Buying Bees in Box-Hives

The question is often asked, "Does it pay to buy box-hives of bees?" Yes, and no. If it is intended to continue to keep them in this style of hive, yes—in sections where the honey-crop is not a failure and they receive good attention, but this is hard to do, and often we sustain losses. And right here is where modern bee-keeping began, for it is a fact that bees will store honey in any sort of a hive if they are in a honey-gathering condition. In modern bee-keeping we can easily supply the needs of the bees, but in the old way it is nearly the reverse; besides, the honey is not in a marketable condition.

The beginner is not always successful in transferring his bees from old to modern hives. And right here is where many bee-keepers turn back. It pays modern bee-keepers to buy bees in box-hives, but they should examine each hive well, removing the top, also looking through the hive from the bottom, and noting the contents carefully. If the comb is old and black it will not yield so much wax as newer comb by the common rendering process. The amount of stores and the cluster of bees should be closely estimated. The writer buys about 100 colonies of bees in box-hives each season, and his experience is that a lot of valuable increase can be made with them early in the spring. If no increase is desired, they can be used to great advantage in building the apiary up to the best honey-gathering condition.

As soon as there is some honey coming in, in early spring, these old hives are split open with an ax, and if they contain any combs of brood straight enough to fill the frames, they are transferred, and the bees are used as seems best—either united with other colonies which may need strengthening, or enough of them united together to make booming colonies. As soon as the choice comb has been taken from the box-hive, and the bees disposed of, it is thrown to one side, and as soon as the bees clean out what honey it may contain, all the comb is removed, scraping all interior parts of the hive well and rendering into beeswax. An average of about 2 pounds per hive is obtained.

About the time the transferring is done there is abundance of pollen coming in, and soon the honey is turned into young bees; and by the time the main honey-flow comes on, the brood-nest is full of young bees, and the supers full of bees of the right age to gather honey, besides storing a large pile of fuel for winter.

J. J. Wilder.

Crisp Co., Ga.

This is a novel idea, throwing aside the box-hives with crooked combs and honey after the good, straight brood-combs have been taken from them, and letting the bees clean them up, and turning the honey into young bees for the honey-flow. In this way two purposes are accomplished, the other being that it saves the fussing with broken combs of honey from which the honey has to be pressed or strained. But is there not danger of starting robbing from the other bees in the apiary? It would be a good plan, perhaps, to remove the box-hives some distance from the apiary, as the danger of robbing is not so bad when the bees carry the stolen sweets from some distance away.

Another good idea is to sprinkle water over the broken hives, which has a tendency to extinguish the scent of open honey, and partly dilutes the honey, so much so that the bees engaged in the fracas are less liable to go at it in a helter-skelter manner.

Report of the Ontario, Canada, Convention

REPORTED BY MORLEY PETTIT.

The Ontario Bee-Keepers' Association met in the York County Council Chambers, Toronto, Nov. 7, 8, 9, 1906. Pres. H. G. Sibbald occupied the chair. After the reading of the minutes of the last annual meeting, the President read his opening address. He regretted the failure of the honey crop for 1906, but congratulated the members on the advance in prices. On account of the increased population of the country, a large home market for honey should be found.

Announcement was made from the Department of Agriculture that the grant for suppression of foul brood is likely to be doubled, showing the increased intrest taken in this by the Minister of Agriculture, Hon. Nelson Monteith, and Deputy Minister, C. C. James. This along with the change in regulation, taking the control of inspection entirely out of the hands of the Association, Mr. Sibbald considered moves in the right direction.

J. D. Evans spoke a few words welcoming the Association to the old historical hall, the York County Council Chambers.

R. H. Smith opened the discussion on the President's address. As one of the members at the first meeting of the Ontario Association in the old City Hall, Mr. Smith saw many advances among expert bee-keepers, but not so much among farmer bee-keepers, as there should be. He regretted the lack of interest shown by farmers in the local associations. The Executive had been working out some of the suggestions made by Mr. Pettit last year, by putting local associations in federation with the Ontario Association.

Mr. Smith regretted the light crop of honey—perhaps the lightest for 10 years; but the exhibit at the Fruit, Flower, and Honey Show was one of the best he has seen despite the light crop.

W. J. Brown suggested that in accord

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with the suggestions of Mr. Pettit in the Canadian Bee Journal last year, we stick close to the program so that members coming in can know what to expect at certain hours.

R. F. Holtermann, referring to the price of honey, thought that considering the price of everything else is up, bee-keepers could keep the price of honey up. Messrs. Brown, McEvoy and Sibbald, spoke on the matter of prices, and thanked the crop-report committee for the help they had been to the bee-keepers. Mr. Timbers considered it not necessary to export honey.

Mr. McEvoy would be in favor of exporting enough to keep the price up.

J. D. Evans sees that the lesson of the year of shortage to us is that in extra-good years we store the surplus for the poor years.

Mr. Holtermann—This report, that there is a combine, is more far-reaching than we think. We should assure people that the Crop Report Committee do not control prices. It merely advises members as to the price they can likely get.

Jno. Newton—Bee-keepers should be permitted to get together and agree on prices, as well as fruit-growers and others.

M. B. Holmes—It has always been my wish that this report be kept private, and should not find its way into public print. Take care that honey be kept A No. 1, as always.

G. A. Deadman agreed that the prices be kept private. The committee should always be cautious about setting the price too high, because bee-keepers sometimes keep honey till winter and sell at a lower price.

Mr. Couse, Secretary of the Committee, said the committee has not made a great mistake yet, though prices may vary slightly. This reporting is what is going on with reference to many other things—grain, seed, etc., and is quite legitimate and very helpful.

Mr. Chrysler suggested that the report of the Report Committee be sent to as many outside bee-keepers as possible, to influence them to keep prices right.

Mrs. Grosjean and W. A. Chrysler commended the work of the Report Committee, and moved a vote of thanks to them.

W. H. Kerby said it should reach smaller bee-keepers.

Mr. Holtermann—The only way to reach smaller bee-keepers is through the local associations.

Mr. Sibbald—The reason for publishing the crop report in the papers was that local bee-keepers, dealers and consumers should all understand the state of the crop.

Mr. Deadman—Too often bee-keepers charge a wholesaler the same price as the retailer, so the Committee should publish these prices.

PRODUCTION OF COMB HONEY

The essential requisites for the production of comb honey are a good honey-flow, strong colonies of bees, convenient hives, and an apiarist who understands handling bees and hives so as to take advantage of the flow of nectar.

The first of these requisites is beyond our control, except that we should take care to locate our apiaries where there is usually an abundance of nectar-secreting plants and trees, such as clover, basswood, etc. In my location clover is the only source of surplus honey.

The strength of the colony of bees depends largely upon the care it gets after being taken from its winter quarters. A colony that has wintered well, and has a good queen and an ample supply of food, will usually be in good condition for the harvest when it comes.

The hive should be sufficiently large to contain a good supply of honey, and yet leave room for all the brood a good queen can produce. It should be easily enlarged or contracted as the occasion may require. The hive I use holds 8 Langstroth frames in the brood chamber, which is large enough for the greater part of the year. In the spring, when a colony is building up rapidly and needs more room, I enlarge the hive by adding a half-story super containing 8 frames, 5 inches in depth, being equal to 5 Langstroth frames, thus increasing the capacity of the brood-chamber to 13 frames.

When the harvest is at hand and the hive overflowing with bees, put on a super of sections. If the colony is in a 1½-story hive, remove the half story, making sure that the queen is in the lower brood-chamber, and put on a queen-excluder to keep her there. Put on the sections, and on top of them the half-story super that was on the hive in the first place. The entrance should be the full width of the hive, and about an inch wide during the harvest. After the bees are nicely started in the sections the super of shallow frames may be taken away and another super of sections put on in its place.

About this time the colony will be preparing to swarm. The swarming impulse is not the great misfortune that it is often represented to be. The choicest comb honey is usually produced by the colonies that have swarmed, either naturally or otherwise. But the swarming must be controlled, and I know of no better plan than the "shook" swarming. Shake the bees into a new hive containing 5 frames filled with wired foundation or starters, as you prefer (my preference is the wired foundation), and one frame of comb to catch the pollen. If that frame of comb contains a quantity of unsealed brood, no harm will be done. Put in enough dummies to fill out the hive. Set the new hive on the old stand with an empty hive-body below the brood chamber. This empty body will give the bees room to cluster in, and they are not likely to swarm out the next day, as they probably would do without it. It should be removed after the second or third day. In shaking the bees I prefer to shake all the bees and give the brood to some other colony to take care of. The sections should be taken from the old hive and placed on the new one.

Where shall we put the sections that we add to a hive that has one or more supers on? And how many supers should we have on a hive at one time? I have no fixed rule for putting on sections. It is largely a matter of judgment, for what is all right in one case may be wrong in another. I usually put the second super on top of the first, leaving it there till I think it is safe to put it below without danger of the bees stopping work in the first one. The third super is put on top, with No. 1 next, and No. 2 below No. 1; and so on, crowding, if anything, the lower supers and keeping an empty one on top in reserve. It is there if needed, and if not needed it does no harm.

The sections and foundation we use are two important items in the production of comb honey. The plain or no-bee-way section with the fence separator is much superior to the old-style bee-way section and plain wood or tin separators. I have given both kinds a thorough trial and am decidedly in favor of the no-bee-way section.

The sections should be so placed in the super that there will be a fence separator between the outside rows of sections and the sides of the super, leaving a passage-way for the bees on each side, which results in the outside rows of sections being nearly, if not quite, as well filled as the middle ones, and in about the same time—sometimes sooner. I have taken off supers of sections where the only unfinished sections were in the center rows. Use full-sized sheets of extra-thin foundation in the sections. The thinnest foundation is the best and most economical to use. A section that is taller than it is wide is better than a square one. The tall sections sell more readily, and are preferred by dealers.

When removing the filled supers of honey from the hives, bee-escapes are very convenient, but it is not necessary to have an escape-board for each hive. A few puffs of smoke will drive most of the bees out of the super to be taken off, and then it should be quickly removed. Pile the supers up at the side of the apiary with an escape-board underneath, and in a few hours they will be free from bees. The honey should be stored in a warm, dry place, if possible. I use the cellar under my house for storing the honey, and keep it dry with a small stove burning natural gas, which is lighted more or less every day while the honey is there. If there is no unsealed pollen in the combs it will not be necessary to fumigate comb honey.

The Italian bees have not given as much satisfaction in comb-honey production as a cross between the Italian and the black bees, on account of the manner in which they seal the combs, that of the hybrids being much whiter.

At the close of the honey-flow enlarge the brood-chamber to its full capacity again. After having secured a crop of nice comb honey do not spoil it by slipshod methods of marketing. Put the honey in neat and clean cases holding a a dozen sections each, having first thoroughly cleaned each section of propolis and carefully graded them. Time spent in this work is well and profitably spent.

C. H. Bowen.

Niagara Falls, South, Ont.

"Can as good comb honey be produced above old comb as above new?"

Mr. Pettit—When there is a quick, sharp flow there is not much difference,

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but when the flow is slower, or the sections are left on too long, the cappings are liable to be darkened by bits of dark colored wax being carried up from the old combs in the brood chamber. In this case of course the new combs are preferable.

"Why use dummies instead of the full number of frames, and why are fences better than plain separators?"

Mr. Pettit—The dummies fill the space at the outside of the brood nest, which would otherwise be filled with honey, and when it is desirable to have as many finished sections as possible, no room should be left for the storage of honey beside the brood.

"Are the sections over the dummies filled as well as over combs?"

Mr. Pettit—Quite as well. Fences are better than plain separators because they allow the bees more freedom of action in the super, and make them more contented. Three-sixteenth inch holes bored in the separators answer the purpose quite as well and do not give washboard appearance.

"Why does not contraction of brood chamber induce swarming again?"

Mr. Pettit—It does when the flow is long, but by the time combs are built and brood reared, the swarming season is generally pretty well past.

"What strain of bees is considered best for comb honey production?"

Mr. Miller—Hybrids.

"Shall we winter bees inside or outdoors?"

Mr. Miller—Outside wintering in outyards gives best results in spring. To keep the storm from driving in the entrance, tip the hive well forward.

"Have you had any experience wintering bees in a trench?"

Mr. Miller—None.

Mr. Whitesides—A number of years ago, I wintered 6 colonies that way quite well. The next winter I had them two deep in the trench, and the lower tier all died.

Queenless Colonies in Spring.

"Can colonies coming out of winter-quarters queenless be given a queen successfully?"

Mr. Miller—No. Not successfully.

Mr. Holterman—This *can* be done successfully by sending away for queens. It is *not* worth while to fuss with laying workers, but a good colony without a queen may be queened successfully.

Mr. Miller—Unite a strong colony with a weak one having a queen. We must consider all these questions from the standpoint of what expense will bring the greatest profit.

Mr. Holterman—You can introduce queens easily right after they come out of cellar.

In producing comb honey, use a queen-excluder over starters below the super if there are combs in the super instead of foundation.

Mr. Miller finds a gasoline engine very helpful in extracting. It saves more than a man's work. With that and a good uncapping machine he could almost "sit down."

Referring to the Alexander Method of building up weak colonies in spring, Morley Pettit said, "Put the weak colony on a strong one with two queen-excluders between. Then in 2 or 3 weeks remove the strong colony to the vacant stand originally occupied by the weak one."

Government Help for Bee-Keeping.

The Hon. Nelson Monteith, in his address to the bee-keepers, stated that he came with the open mind that would enable him to learn from the discussions of the bee-men what can best be done in the way of legislation for this important industry. He believed that the value of honey as a food was not well enough known, and it might well be expected from the bee-men that they disseminate information along this line, and that there is also room for improvement in the article put on the market. This Province is growing rapidly in population, and an ever-growing market can be opened up if it is well looked after. With reference to the inspection of apiaries, the Department is anxious to do whatever is for the best interest of the bee-keepers, regardless of party influences. We recognize, said Mr. Monteith, that the season for inspection is so short that the work might be furthered by giving more attention to inspection, either by appointing more inspectors or by some other means we are not quite clear—districts for inspection, with an inspector resident in each. The Department would like the executive committee of the association to recommend the names of these inspectors, and would suggest that Mr. McEvoy be retained for inspector of his own division, and as referee in case of disputes in the others. Probably $1,200 will be appropriated next year for the purpose of inspection. It was also suggested that the secretaryship of the association be located in the Department. This had been found to work well in the case of the other associatioons, and would, no doubt, be beneficial to the bee-keepers as well.

The president said he was glad to have Mr. Monteith at the convention and felt that the Department was making an effort to advance bee-keeping.

"We feel," he said, "that bee-keepers are utilizing a product that would otherwise be wasted, and that foul brood is a very serious menace. It means a $2000 loss to one man alone in the last three years."

A leter was read from the Department proposing that the relationship between the association and the Department be strengthened. The Department would like the executive committee to suggest men for inspectors. They propose to divide the province into six districts for inspection, with one resident inspector in each. Mr. William McEvoy, as inspector in his own district and as a referee in case of disputes elsewhere. They would probably spend twelve hundred dollars on inspection next season.

It might also be wise, the letter continued, to have the secretaryship of the association located in the Department. This is done in reference to the other associations with profit.

The present secretary, Mr. Couse, expressed himself as being pleased with the new arrangement.

Letter from Deputy C. C. James

Dear Sir:—Under instructions from the Minister, I beg to lay before you, for consideration by your Executive—and if thought advisable by your Executive, to lay before the members at your next convention—a proposition whereby we think the relationship of this Department with the Association may be materially improved, the usefulness of the Association extended, and the interests of the bee-keepers better served.

We have found that it has been to the mutual advantage of the Department and other associations to have the relationship strengthened and the work of inspection directed from the Department. You will recall that at the last session of the Legislature provision was made whereby more than one inspector might be appointed by the Minister, and the work of inspection directed from the Department. Owing to the lateness in the season when this bill became law, and also owing to the fact that your Association had already selected an inspector, it was felt advisable to continue your recommendation, and the work was begun somewhat late in the season.

We understand that the period of best inspection is somewhat short, and that, therefore, it might be advisable to divide the Province into six Districts, as follows:

1. Lennox and Addington, Frontenac and east.
2. Victoria, Peterboro, Northumberland, Durham, Prince Edward, Hastings.
3. York, Peel, Simcoe, Dufferin, Ontario.
4. Wellington, Waterloo, Perth, Huron, Bruce, Grey.
5. Norfolk, Brant, Oxford, Elgin, Kent, Essex, Lambton, Middlesex.
6. Wentworth, Lincoln, Welland, Haldimand.

We think that it would be practicable to secure a good man for each one of these districts. In making the selection, the Minister would naturally consult with the officers and Directors, as he would desire men who would be well informed and carry on the work with the approval of the society. We would suggest, however, that the services of Mr. McEvoy be retained, and that he be given section No. 6, providing he would be willing to continue. This section is in the vicinity of his own home, and he would be available for referring to him any points that might come up in connection with disputes in other districts. While we have in mind other bee-keepers for the other sections, it is not necessary to name them in this connection. It is the principles of the work and general lines of division that we submit to you for consideration.

This would necessitate a larger grant than we have at the present time. The Minister is inclined to think that next year a total appropriation of $1,200 would be sufficient, as the inspectors would not have to travel so far from home, expenses would be lessened, and should be able to cover a much larger area than has been done under the old plan.

In the next place we have thought

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that, in order to carry out this work and keep in direct touch with the bee-keepers, it might be advisable to have the Secretary of the Association located in the Department. We are not anxious, in the Department, to monopolize any of the work or privileges of the Association, but if you think it would not interfere with the work of your Association in any way, but rather improve its working, to have the secretaryship here, we beg leave to say that that can be arranged. The Secretary of the Fruit-Growers' Association, Mr. P. W. Hodgetts, is an officer of this Department, and we understand that he would be willing to take the secretaryship of the Bee-Keepers' Association also. But that is a matter that we do not wish to force on you in any way, but submit for consideration. You may consider the question with the utmost freedom. Mr. Hodgetts is not seeking it, and we are not unduly urging it. We would hope to bring the work of the Association into closer relationship with other branches of work, more particularly the Farmers' Institutes, and it is just possible that some improvement might be made to the advantage of the Association and the Institutes. Please have this matter considered by your Executive. C. C. JAMES.

Deputy Minister of Agriculture.

Toronto, Ont., Oct. 31, 1906.

J. D. Evans—The bee-industry is not only for the honey and money, but the bees as fertilizers bring millions of dollars to the fruit-growers every year.

Mr. Sibbald approved the proposed plan.

Mr. Couse thought the Department could handle the secretaryship much better than any private individual.

Mr. McEvoy thought if he is to be referee in inspection, he should be allowed to choose the inspectors. He declared he would not act at all unless he could choose the other 5 inspectors.

Mr. Chrysler approved of the proposal.

Mr. Miller considered the propositions of untold worth to the Association.

W. J. Craig thought we should get together, and be unanimous.

Mr. Pettit—It might be wiser to leave the matter of appointing inspectors in the hands of the Department. We have had so much discussion and difference on appointing inspectors that it came as a relief that the matter of appointing was taken out of our hands.

Ed. Dickinson, Jr., agreed with this, that the Department might well retain the appointing.

Minister of Agriculture—The Department desires to be given a free hand, and we have endeavored to keep free from political appointments. It is from these organizations that we get the best advice. We hope you will settle your differences and agree on a line of policy.

Mr. McEvoy no doubt has the interests of bee-keepers at heart.

Mr. Couse was pleased to think of the secretaryship going into the Department, where the office machinery would greatly increase its efficiency.

Many expressed appreciation of Mr. McEvoy's superior knowledge of the cure of foul brood.

WINTER REPOSITORIES.

Wm. Couse, Streetsville, made the keynote of his address on this subject "dryness." He argued from his experience from the "good old brimstone days" when every boy could smell brimstone in the fall for "three miles" and it spelled "honey" for him, to the present day of modern appliances. The first winter repository he remembered was a hollow pine log with a hole half way up for entrance and in this the bees invariably wintered because it kept them dry.

Dr. Thom and the Alpaughs were the first cellar winterers in his section (Centre Wellington). Their cellars sometimes had water on the floor but the atmosphere was dry and they wintered well. A little later Mr. Couse went to Beeton, where D. A. Jones wintered in sawdust houses. The loss here was always in the bottom rows where the bees were not kept dry as in the upper rows. Mr. Couse now winters about half in the cellar and half outside, and finds that they invariably winter better in the cellar and should not be taken out in spring till on towards the middle of April.

R. H. Smith said that old, black combs are warmer for wintering than new ones. He had bees winter well in a cellar where the floor was covered with water. The water seemed to purify the air. He thought the best temperature is 45 to 48 degrees above zero. The cellar is perhaps the best method of wintering bees in this country.

Mr. Holtermann—The only way to know the moisture of a cellar is to have a hygrometer to measure the moisture of the air.

O. L. Hershiser—It may or may not be true that water in a cellar constitutes a damp cellar. Mr. Couse has struck the keynote of successful wintering when he says it is dryness.

J. L. Byer—Wintering outside in an exposed manner is done at the expense of stores. A real strong colony with abundance of stores will winter in almost any shape outdoors.

Mr. Holtermann—It is more difficult to get bees into shape for outdoor wintering than for indoor wintering.

Mr. McEvoy—That might be.

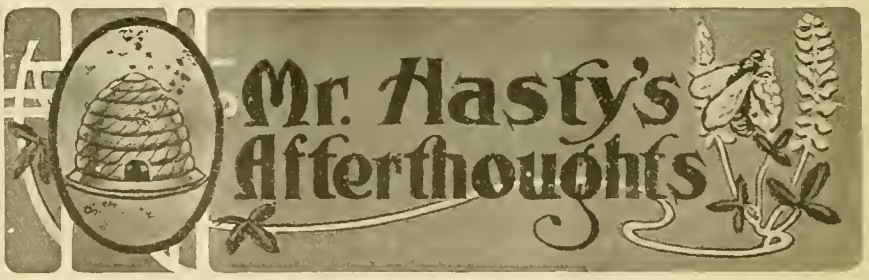
A Member—I don't want winter brood-rearing before February. I can tell any time in winter when they are rearing brood. In that case they *must* stop the brood-rearing. Cool them off by taking off the cover, etc.

Mr. Miller said it is possible that a combination of conditions affects circumstances. He finds that it is not necessary to give upward ventilation.

Mr. Holtermann doubts the wisdom of sealed hive-covers in the cellar.

Mr. Brunne said the cellar should be on a slope. Dampness is necessary for wintering. Have the honey-board on top, but leave off the cover and bottom-board so the air can circulate through the whole hive.

(Continued next week.)



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

ARE CLIMBING BEES A SIGN OF ROBBING?

About the climbing of bees being a sign of robbing, Dr. Miller sticks to his t'other-way position like a good fellow. If the Question-Box wasn't dead beyond resurrection, I'd ask to have the thing submitted to the experts. If we could get an overwhelming majority against him maybe he'd down. And then, again, maybe he wouldn't. (And then, again, maybe I wouldn't get the majority.) About that time I might be saying, "Those experts are worse than a petit jury, anyhow." The question, mind you, is not whether it always means robbing, nor whether it usually means robbing, but, Is it robbing often enough that the apiarist ought to see about it promptly when it occurs? Page 985.

POSITION OF FRAMES IN EXTRACTOR.

So the Canadians are figuring on putting combs into the extractor in such a way as to capture the upward slant of the cells to help along the desired result. Evidently there is an item there that might be secured. But whether it is a valuable item, or an item so small that it is hardly worth bothering with, even my guessing prowess does not enable me to say. Decisive experiments not easy to hit on, either. And while you're at it, remember that gravity can also be made to help some by running the frames bottom upward. Page 983.

BEES AND GRAPES.

John Kennedy thought hard of us all, and names me for one, because when he was deeply stirred up about something destroying his grapes, not one of us would say anything. He didn't realize what a dreadfully worn-out and threshed-out subject "Bees and Grapes" has become. And I—well, I had an additional reason for "holding my whist" in that my opin-

American Bee Journal

ions on the subject are a little heretical, and I am giving the brethren more heresy now than they are able to stand. Notwithstanding he "knows" it isn't the birds, I'll be just impolite enough to guess that it is. Let him look for very small and very sly birds, with needle-like bills, and a Satanic disposition to stab, stab, stab a multitude of grapes, taking only a minute drop from each. And if I am right, the only time in the day when they can be seen anywhere around the vines is just as day is dawning in the morning, when the grape owner isn't up yet. Mr. K. looked in the night with a lantern, and looked also through the day, but perhaps he didn't look closely enough just at the right time.

However, that's not the only theory open. His small bumble-bees may really be mason bees (so called from boring their nests in masonry where the mortar is not very hard), and mason bees are *likely enough* to have just as sharp mouth-parts as the carpenter bees have. I never observed mason bees when they were at the flowers, but the other fellows I have. The carpenter bee has a bill so sharp that he won't take pains to go inside flower-tubes, but just punches right through from the outside. Might, perhaps, serve grapes the same way. So I judge that the whole of these two "calabangs" of big bees (including several species) are possible enough culprits when grape mischief is being done. Page 980.

PUTTING A ROBBED COLONY OVER A STRONG ONE.

Sure! Robbers can't renew the same wickedness next day if you put the hive they are after over another and much stronger colony. Once in a while it may be desirable to do so, I guess. In general, putting a weak colony over a strong one doesn't seem to be winning popularity much; but this one item bids fair to be saved from the wreck. Page 983.

FAITH IN THE BEE-MAN.

A lesson to us all is that little girl on the face of No. 48. She is not one of the child bee-keepers, and she doesn't like to get stung. She simply believed what the bee-man told her, when he said the bees wouldn't hurt her. How good a thing is faith! (and how bad, sometimes, when the person at the far end is not worthy!)

THOSE NIGHT WATER-CARRYING BEES!

And J. Pawletta stirs us up again. He's the man whose bees carry water at night. Admits that at their daytime watering-place, 210 yards away, bees are not found at night. Sticks to his previous report. And still he finds it too tiresome ever to get around and say, squarely up and down, that he has ever seen a bee load up with water and start for home—sees 'em come and go at the hive-end of the performance. Page 968.

SPRING MOVING OF BEES.

And here is a very graceful and luminous sentence from Mrs. Null, on apiary moving: "Oh, but it's so natural to wait for spring, and join hands with Nature, and promenade all!" Page 965.

MR. BINGHAM'S STEP-LADDER HIVES.

Bingham thinks he's smart to show us, on the face of No. 47, hives tiered up till one needs a step-ladder to get the cover off. Mr. B., you never read the poem which says:

> Not always people
> Clear up in the steeple.

No, I guess you never did.

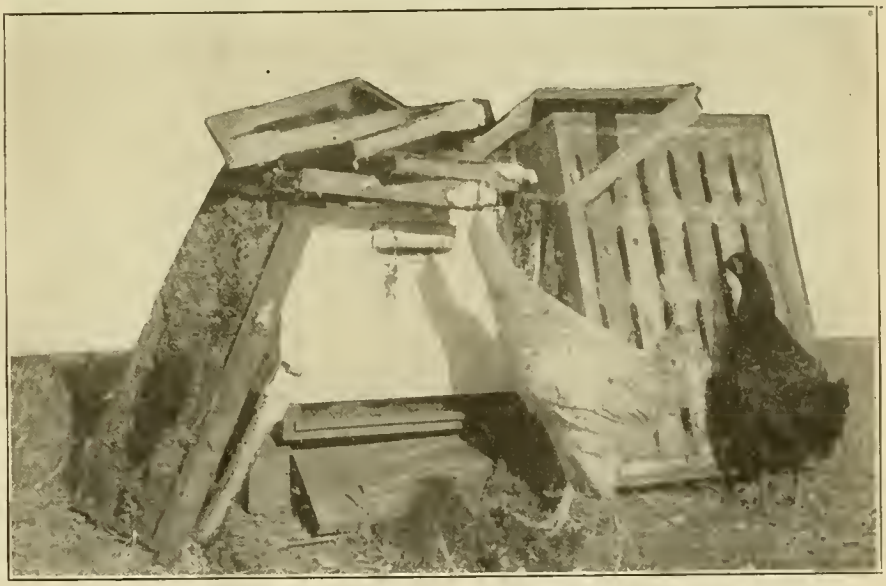
Pacific Coast Murmurings

CHICKENS IN THE APIARY.

The bee-periodicals from time to time have had something to say pro and con on the subject of chickens in the apiary. At our place the apiary and vegetable garden are on the opposite side of the fence from where the poultry is allowed to run, as none of the folks like the chickens to come near the house or roam through the garden. If poultry knew where to scratch without rooting up valuable seeds and plants, we would tolerate them in the garden; but how few chickens have "horse sense!" In a few minutes an old hen, which is a "lightning striker" with her "lower limbs," will do untold mischief to a bed of newly-planted seed or a bed of plants that we may have spent much time and considerable money in establishing. Too often do these old hens raise "old scratch," and a rank growth of nasty cuss-words, even, sometimes, in one religiously inclined. For this reason it may be believed that said old hens are in some way the instruments of the Evil One in the undoing of us humble mortals. But I am getting away from what I was going to say about chickens in the bee-yard.

This year I became, as it were, foster father to a pair of black chickens. How this came about I shall not here relate in detail, though suffice it to say that I took them under my "motherly" care when they were but a few hours old. I raised them in the way that a well-educated chicken should go. They are "cute" chickens now, though they are not yet fully grown. They were given privileges the other chickens were not allowed to enjoy. I early introduced them to the bugs and things that are to be found in an apiary. I would take them into the apiary, and by turning over a board or box would disclose a lot of worms or bugs. It was as good as a picnic to see how the little chicks would go for the insects. Sometimes I would find a moth, or the larva of a moth, inside a hive, and I would give the two-legged little pets a lesson in that sort of entomology. They did not seem to care for such study. "Gastronomy" was more to their liking, for they would devour the enemies of the bees quicker than one could say "Jack Robinson."

In time the little chicks made regular visits to the apiary in quest of insects. They soon got a brood of chickens that were just weaned to become regular bug-and-moth hunters among the bee-hives, too. In one part of the apiary were a few hives that I had not given any attention to, as my time among the bees for some years back has been far more limited than it was a decade and more of years ago. In this part of the apiary I found a few hives had become the prey of the abominable wax-moth. I closed the hive until I secured my camera. Then I got things posed for a suitable view of the situation—"Chickens in the Apiary." What a world of endearment there is in the little picture I secured! One of my "black beauties" ran away, as a bee got tangled in the feathers about her ears. But a noble pullet, that learned to hunt about the



A MOTH-RIDDEN HIVE BEING INSPECTED BY CHICKENS.

American Bee Journal

hives, took the truant's place and enjoyed a meal of "worms."

These "little birds" moved about so rapidly in their feasting on larvæ that I had a job to snap them in a position that just suited my "artistic" notions; in fact, I did not get them just as I wanted, after all. Anyway, it may be seen that the black bird is just picking a dainty tid-bit from off a Hoffman frame, and the larger chicken is about to strike out for a big fat larva on the top of one of said frames. Just before Black Bird No. 2 was skidooed by a bee, she flew up on the hive, and I was about to capture her "camerically" when she "lit out."

So much for these chickens. Does not the hive look wormy? It's a prize picture. But don't say anything about it!

ANTS—DO CHICKENS EAT THEM?

In my observations of the diet of chickens among the bee-hives, I noticed that ants and their larvæ were not on the former's bill of fare. I read somewhere that chickens were fond of ant-larvæ. Not so, my chickens. I suppose they were not the right kind of ants. I refer to the little black ant that is too often such an annoyance in the pantry and about the hives. I have seen a hen with her little chicks thoroughly enjoy a feast of those ants that come out full-winged just after the first rainy day of the season. These are a sort of wood-ant, I believe, and are not "poluted" with the nasty taste and odor of the "house"-ant.

MOTHS VS. LANGSTROTH HIVES.

Referring again to the moth-infested hive, I want to record this fact, that of all hives I ever had anything to do with in a period extending over some 40 years, I never had a hive fall so easily a prey to the moths as the 8-frame Langstroth. Why is this? I don't know unless it is because the hive is too small, and for this location does not contain sufficient storage-room for food-supplies for the bees to subsist on. Then the division-board or follower is a bad thing, as behind it it can harbor the moth, and from there inroads are made upon the vitality of the colony. I think the time will come when the division-board feature of the hive will be abandoned. Then we shall have a different style frame, too. This is not intended as heretical; it's progress, I hope.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Wiring or Splinting Foundation

Which is better to fasten brood-foundation, wire or splints? WISCONSIN.

ANSWER.—Just so far as the mere matter of fastening is concerned, the wire is better. Splints do not directly hold the foundation in the frame, although they stiffen it so there is little danger of its falling out. But splints have the great advantage that you can have the foundation built down to the bottom-bar with no danger of sagging or buckling—a difficult thing to accomplish with wiring.

Extreme Sensitiveness to Bee-Stings

A year ago last summer, whenever my wife went out to help with the bees, she would have an attack of sneezing and coughing; her eyes would run water, and she would breathe with difficulty. It acted a good deal like a severe case of hay-fever or asthma.

Last summer she came out one day to help me move a hive, when a bee stung her on the arm, through jacket and shirtwaist, so it was not a very severe sting. I told her to go to the house at once and put some turpentine on the spot stung. I came right along in, not a minute later, and found her nearly speechless, lips and tongue swollen, a fever all over as if she were burning up, and broken out in large water-blisters all over her body. She was nearly dying in a few minutes. After a while she became easier, but was sick abed the rest of the day, and was not well again for a couple of days after. So she did not dare to go out any more last season.

Now, is there any preventive, remedy, or cure? Do you think it will ever occur again? Will it be advisable for her to try it any more, that is, to go out into the bee-yard?
WISCONSIN.

ANSWER.—This is one of those very few cases of extreme sensitiveness styled "idiosyncrasies." It is quite possible that the results of the next sting would not be so severe; but the likelihood is that they would still be somewhat serious. Quite likely perseverance would in time secure to a great extent immunity; but whether it be worth while to pay the price for that immunity is a question. On general principles, the right thing for a person so peculiarly constituted is to keep away from the bees entirely; and only in case it should be of the highest importance to be able to assist at bee-work should an exception be made.

This, however, is only personal opinion; and in case any one can help out, such help will be gratefully received.

Staple-Spacing Frames

I am using hives which contain 10 Hoffman frames and a division-board, or, in other words, my hives are 14⅞ inches wide. Each frame takes up 1⅜ inches, so there is 1⅛-inch space for the division-board. Now, I do not like the Hoffman frame so well as I thought I would, and am going to change to staple-spacing—one staple on each side of top-bar at opposite corners. I am going to do away with the division-board, and I was wondering if it would do any harm to drive the staples in a little further than usual, and make room for one or more frames where the division-board is. Would this narrow spacing—about ¼ inch on the whole hive—make any difference? What would you do to make that 1¼ inches big enough for a frame? or would you put one in at all? ONTARIO.

ANSWER.—I hardly believe you will find any bad effect from squeezing together the frames so little. But I advise you to try it on a rather small scale for a year or two at first. There is considerable danger that you will count it too troublesome to get out the first frame if your frames are automatically spaced, and no more play than you propose. Even if you could do it well enough at first, propolis will accumulate, and you may find your frames wedged in so tightly as to make it a matter of too much difficulty to get out the first frame. It would take a good deal to get me to give up the convenience of having a dummy in each hive; for I take it for granted that you mean a dummy when you speak of a division-board. If they are really division-boards, that is, tight-fitting, then I'd cut them down to dummies, having a space of ⅛ inch or so at each end and underneath.

Feeding Bees in the Spring

1. As I fear that my bees will be a little light of stores in spring, would you advise feeding maple water reduced about half, so as to make it thicker? or do you think it would injure the bees?

2. As my bees will probably be light in spring, would you advise feeding in a wholesale way, or feed only a little at a time?

3. How soon would you advise feeding in spring? Do you think it is too soon to feed when the first pollen comes in?
MISSOURI.

ANSWERS.—1. Better not give such feed till bees are flying nearly every day.

2. About as well go it wholesale; bees feel encouraged to have a good lot of stores in sight. About the best way is to give them early in fall enough to last till the flowers will keep them busy the next year.

3. Feed in spring just as soon as you think there is any danger of starving. If they have enough to last through till flowers they'll not need feeding in most places. The places they will need it, even when there are stores in the hive, are those places where there is fine weather for them to fly every day, yet no flowers for them to work on. If such conditions last long enough, the queen will cease laying, and so you should feed every day, or every alternate day, to keep her laying.

Old Hives With Moth-Cocoons on Frames

I have bought a lot of old bee-hives that have been empty for 3 or 4 years. There are lots of moth-cocoons on the frames. Will these hives be suitable to put bees into the coming season, if thoroughly cleaned?
VERMONT.

ANSWER.—Yes, they will be all right so far as any danger from moths is concerned, for there is no life in the cocoons; although the frames may be somewhat gnawed by the larvæ of the moths.

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Reports and Experiences

Poor Year for Bees

This year was a poor one for bees, for from 80 colonies, spring count, I got only 1500 pounds of honey. I think it was too wet. I put 100 colonies into the cellar Nov. 20, but I think a lot of them will starve before spring.

CHAS. J. MILLER.

Long Prairie, Minn., Dec. 10.

Bees in the Rocks

In prospecting for gold on the Colorado River, in Nevada and Arizona, I carry water in cans, and sometimes 4 miles from the river bees cover the stopper so that I can not drink. They live in the rocks.

Searchlight, Nev. F. F. ROBINSON.

Bees Carrying Pollen in November

Perhaps it would be of interest to you to know that bees were out at 7:30 this a.m., Nov. 19, 1906, and some of them carrying pollen. Temperature 62 degrees above zero.

North Scituate, Mass. W. A. CARTER.

Bees Quiet in the Cellar

My bees are unusually quiet in the cellar. I have never had so few dead bees on the floor after so long a time—more than a month. There are very few on the floor.

We have 2 inches of snow and ice. It is fine wheeling and fair sleighing—not very cold, but not thawing. T. F. BINGHAM.

Farwell, Mich., Dec. 18.

His Best Season in 1906

The season of 1906 was the best I ever knew. My bees commenced work in earnest about June 15, and continued to bring in honey until about Sept. 15. This is not a good locality for honey, there being no clover of any kind and but very little basswood, the principal sources being sumac, peas, and cotton.

I started in last spring with 44 colonies and increased to 54. I secured on an average 60 well-filled sections per colony, spring count. My best colony yielded 116 well-filled sections. My colonies in Danzenbaker hives yielded about 33⅓ percent more honey than those in the 8-frame dovetailed hives. I have never been able heretofore to get more than 30 well-filled sections to the colony. I hope this locality will continue to improve as it did this season.

Success to the American Bee Journal.

Danville, Ark., Nov. 19. J. H. MCCARGO.

Plain vs. Bee-Way Sections—Fastening Starters

I improve every opportunity to induce bee-keepers to read the American Bee Journal, and learn how to make the bees keep *them*. While the past season was quite discouraging at times, on the whole it was quite satisfactory. My crop was 4000 pounds of extracted and 5065 pounds of section honey, or 5313 sections. One shipment of comb honey of 4502 sections weighed 4416 pounds net; near enough a pound to a section for all practical purposes. I have 18 unfinished sections left for bait. How is that for a finish-up?

There has been considerable discussion as to what size should constitute a 1-pound section, and I will say for the benefit of those concerned that these were about two-thirds 4¼ square plain, and one-third 4¼ square bee-way sections. In a dray-load, as they were hauled to the car for loading, a record was kept of the kind of sections and their net weights, and here is the result: plain, 1124 sections, net weight 1032 pounds; bee-way, 792 sections, net weight 763 pounds. While the bee-way sections weighed slightly heavier, the difference is so slight it is not worth reckoning. In fact, almost if not quite sufficient extra wood is in the bee-way sections to make the difference. From the consumer's standpoint, it is about a "stand-off," and the producers are slightly ahead on the plain sections. First, 25 cents per thousand on first cost; second, less freight on sections. Then the casing costs less, and less freight on same, and hence less cartage if shipped by local freight.

Then scraping is quite an item, although this is offset somewhat in handling the sections into and taking out of the supers, at least it is with me.

As to the bees accepting them, I see no difference. They enter one as quickly as the other, and fill them out plump, one as well as the other.

I use the 10-frame hive with 9 frames and dummy, and like them better than the 8-frame, of which I have some 30 or 40 that I use when needed.

I use bottom-starters in every section, and have done so for 4 or 5 years. The last 3 years I have fastened the bottom-starters in sections as described at the St. Louis National convention, and later in Gleanings. The more I use the fastener the better I like it, and don't see how it can be improved upon, either for speed or quality of work. The machine or fastener described in Gleanings by Dr. M. A. Aulick, of Kentucky, is worked on a similar plan, but if he can place bottom and top starters in sections at the rate of 20 to 25 per minute, he can "move some." Try your speed on a hundred or more and report, will you, Dr. Aulick? Also, Dr. Miller *his* speed. And don't you forget to report, too, Doctor. F. W. HALL.

Hull, Iowa, Nov. 5.

Bees In Good Condition for Winter

It has been raining a great deal here lately. We have also had a little ice, which is an uncommon thing in this part of the country. We are looking for a good honey season next year, of course, as we have had two failures in succession. Our bees are in much better condition for winter than we expected. I have just examined and found that they have plenty of honey. DIXON C. GULLEY.

San Antonio, Tex., Nov. 29.

A Good Rainfall

This entire State has received a good rainfall up to the present time—over 2½ inches having fallen bereabout, and a much heavier downpour in the North. I trust California bee-keepers will be much benefited.

Los Angeles, Calif., Dec. 12. T. F. GRAY.

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CONVENTION NOTICES.

New Jersey.—The New Jersey Bee-Keepers' Association will meet at the State House, Trenton, on Wednesday, Jan. 16, 1907, at 10:30 a.m. Addresses will be made by the President, also by Chas. Stewart, foul brood inspector, Sammonsville, N. Y.; H. S. Ferry, J. H. M. Cook, and others. Much attention will be given to the Question-Box. All bee-keepers, and especially ladies, are cordially invited to attend. W. W. CASE, *Pres.*

G. N. WAUSE, *Sec.*

Nebraska.—The annual meeting of the Nebraska State Bee-Keepers' Association will be held in the Experiment Building at the State Farm, Lincoln, Nebr., Jan. 16, 1907. An interesting program on practical subjects has been prepared, and bee-keepers will be benefited by attending.

LILLIAN E. TRESTER, *Sec.*

Lincoln, Nebr.

Washington.—The Washington State Bee-Keepers' Association will hold its 2d annual convention at the State Agricultural College, Pullman, Wash., Jan. 7, 8, 9, 1907. A good aitendance is expected, and present indications point to an interesting and successful meeting. A number of prominent bee-keepers will read papers which will be followed by discussions. For further information address the Secretary.

VIRGIL SIRES, *Sec.*

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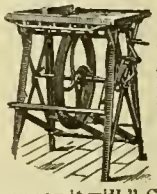

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Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Dec. 6.—The demand for comb and extracted honey is good, receipts light. We quote: Fancy white comb, 24 sections, per case, $3,25; No. 1, $3.00; No. 2 and amber, $2.75. Extracted, white, 7@7½c; amber, 6½@7c. Beeswax, 27c. C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax, 30c.
C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Dec. 3.—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c. HILDRETH & SEGELKEN

DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
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CINCINNATI, Dec. 7.—The honey market is in a healthy condition, particularly extracted honey, the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate the prices. We quote amber extracted honey in barrels at 6@7c, according to the quality. Fancy table honey in barrels and 60-lb. cans at 8@9c. The demand for comb honey has decreased, somewhat, owing to the season of the year when the sale of that article suffers. Our prices of fancy white comb honey, in a wholesale way, is 15@16c. Choice yellow beeswax, 30c, delivered here.
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INDIANAPOLIS, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
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TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
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(See page 26)

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Book Circular.—This is the season of the year when bee-keepers have time to read up on the subject of bee-keeping more than at any other time. If you haven't a copy of our book circular giving description of nearly every book published on Bee Culture, send for a copy of this at once.

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Dealers in Supplies.—We are just now revising the list of names of dealers in bee-keepers' supplies, which we maintain whether they handle our goods or others. If you are handling bee-keepers' supplies either in a limited way or on a large scale, please send us a postal card to that effect that we may have your name entered on this list with the correct present post-office address. Even if you buy none of our goods direct there may be some items in which you will be interested, and at least there will be no harm in having your name registered with us as a dealer in supplies.

Observation Hives.—There has been an increasing demand for observation hives for a number of purposes during the past few years. Bee-keepers have found in many places that an observation hive with bees placed in a store window is a good way to advertise their honey. Particulars regarding these have been published in various bee-journals from time to time. We shall be glad to quote you prices on any of our regular styles, or any special style, that you may want for this or any other purpose. Bee-keepers are learning that a better understanding of bees on the part of the public generally increases the interest in honey, and there is no better way to educate people regarding bees than by the use of a good observation hive.

Early Order Discounts.—For cash orders in January 3 percent. For cash orders in February, 2 percent. These are the discounts we offer for early cash orders. The discount is only for cash sent before the expiration of the month named, and is intended to apply to hives, sections, frames, foundation, extractors, smokers, shipping-cases, cartons, and other miscellaneous bee-keepers' supplies. It will not apply on the following articles exclusively; but where these form no more than about one-tenth of the whole order the early-order discount may be taken from the entire bill: Tinned wire, paint, Bingham smokers, Porter bee-escapes, glass and tin honey-packages, scales, bees and queens, bee books and papers, labels and other printed matter, bushel-boxes, seeds, and other specialties not listed in our general catalog.

Weed Comb Foundation.—The large sales of Weed Process Comb Foundation are a sufficient indication of its worth. There are, however, many bee-keepers that are not familiar with it, especially those in out-of-the-way places, who depend upon Foundation of their own or local make. If you have never used our Foundation and would like to see small samples of the four grades — medium brood, light brood, thin super, and extra-thin super —we shall be glad to send yon samples on request, and at the same time will advise you, if desired, from what point nearest you you can secure our make of Foundation. We shall be glad to figure how many pounds you will need for a given number of frames or sections, and let you know the lowest cost for our Foundation. The excellence and uniformity of its manufacture often make it require a great deal less than some inferior makes.

Hoffman Frames. — Considerable has been published in the various bee-journals during the past year on the use of the Hoffman or some other style of self-spacing frame as compared with the non-spacing frame. We have a leaflet giving the opinion of some of the leading users of these frames, and if you are in doubt as to the advisability of using these frames, we shall be glad to send you this leaflet on request. We will also send you a complete sample postpaid for 10 cents.

Marbach Metal-Spaced Frames.—For a full description of these frames we refer you to Gleanings in Bee Culture for January 1, 1906. These frames have been in use for about a year, and are very favorably regarded by those who prefer some metal instead of wood spacing for their frames. A sample of these frames will be sent for 10 cents, or a sample of the spacers only for 3 cents; or we will send a complete Hoffman frame and a set of spacers for 12 cents.

Honey.—We have at several of our offices large quantities of honey. If you are in need of either comb or extracted honey for your trade in excess of your own production, write us for prices, stating what you require.

Breeding Queens.—This is the season when orders should be sent us for breeding queens, if you have not already secured the same for the coming season's trade. As usual we have our Italian stock, Leather Colored or Three-Banded in breeding queens at $5, $7.50 and $10 each. We can also select from our Medina yard a few queens at $25 each. The number is limited, and we can not guarantee to furnish these beyond the certain number that we have now on hand in winter quarters.

Bees of Other Races.—While we do not breed other races here at Medina, we have most excellent facilities for furnishing high-grade stock of the following varieties: Carniolan, Caucasian, Banat, Cyprian and 5-banded Italian.

Special.—Send 10 cents (stamps or silver) for our 1907 Calendar, entitled, "Little Miss Mischief." Copyrighted in December, 1906, by T. Fred Robbins. With it we will send your choice of the following books: "Habits of the Honey-Bee," "Bee-Keeping for Women," "Modern Queen-Rearing," or "How to Produce Extracted Honey."

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 10, 1907 | Vol. XLVII—No. 2

Grand Future for Honey

Last week we had something to say about the effect of the National Pure Food Law on the demand for unadulterated food products. A few days after we wrote the matter referred to, we received a letter from one of the leading bee-keepers and apiarian writers of this country, who, in referring to the glucose manufacturers, said:

"I do not now see but what they will have to quit making glucose, if it is a fact that such mixtures, when properly labeled, will not sell. I tell you, Mr. York, I believe there is a grand future before the honey-business, and already we are beginning to see the effect of the new Pure Food Law. California honey has been adulterated very largely when it got to the East, you know. That can not be done any more now, and what is the result? Prices are going up very rapidly on that grade of honey. A report from California says that sage honey has now reached a level in price that it has not had for years. Advanced prices in honey are going to mean better days for all apiarian interests. Possibly I am over-enthusiastic, but there are so many things that go to show which way the wind is blowing, that I can not help but feel that I am right. Besides, I have been talking with experts on the subject, who express themselves even more hopeful than I do."

Not having written the above for publication, we omit the author's name, but we agree fully with him. As we said last week, we believe a new and brighter day is soon to dawn for the producer of pure honey for the market. Producers in other lines, also, feel that prices of pure food products will rule higher for some time to come. This certainly ought to result in greatly increased profits to those who produce such goods.

Making A Bee-Paper Helpful to All

In the conduct of the American Bee Journal, the sincere desire is ever kept uppermost to fill its columns with matter that shall be of most use to its subscribers. It is too much to hope that everything published shall always be exactly the thing best suited to every one of its readers, the needs of each one in so large a family greatly varying. Yet the hope is entertained that each and all shall find, if not in each number, yet in most numbers, enough real information throughout the year greatly to overbalance the small amount paid for each number—less than 2 cents. Indeed, many letters have been received saying that in a single number value had been received overbalancing the cost of the entire year. Occasionally a letter is received finding fault. Letters of both kinds are welcomed. The first kind serves as a stimulus, cheering on to more strenuous effort. The second kind, provided it be specific enough, points to a possible weak spot which may require strengthening.

So the two letters following, by the same writer in Ohio, are thankfully received. The second is in reply to a note sent from this office, the contents of which may be sufficiently understood from the reply:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—In the Journal of Dec. 6, is an article by C. W. Dayton, *entitled*, "Increase, or Prevention of Increase." When I saw the title it struck me as being to the point for beginners, but after reading it three times I could make nothing out of it. One thing I take your paper for is for what a beginner can learn, but thus far all articles have been only such as experts might comprehend, and solely for their amusement, none of them explaining how they perform the practical parts on which they write.

Take for instance the article on T-tin or T-super. As a fact, I never saw one, nor can I gain any idea what it is like by reading Armstrong's article. I must confess I fail to see how one is to get his dollar's worth out of it if all subjects are handled in like manner. I notice the same fault in all similar publications to yours. Such being the case, one better invest his dollar in good, reliable text-books. I may continue to take the Journal, but with little satisfaction. It is my desire to learn, and I am willing to do so from any source. It is my desire to employ the most modern methods in bee-culture, and I am willing to pay my money for benefits. Now, Mr. York, reply to this as you see proper. I shall be glad to hear from you.

Yours truly, M. F. SOULE.

The second letter received from Mr. Soule is as follows:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—Yours of the 13th is duly to hand and noted. In replying I am going to insist that any article published in the Bee Journal should have its respective title, telling what the discussion is about, then beginners could also learn from such debates. Every subscriber has an interest in every subject within the Journal's covers. It will be just for me to admit you can't deal with beginners entirely. It is within my reach to refer you to other articles in the Journal, that are intelligible even to beginners; but the one referred to in my prior letter is but a jumble of words.

Allow me to inform you that I have "Langstroth" revised by Dadant, and "Bees and Honey," by Newman—the last you sent me quite lately. The first I have had over a year, and have used it much. It is not my purpose to be a kicker, nor a know-it-all. On the contrary, I am on the "mourners' bench" seeking light.

I wonder if Dr. Miller would explain the T-tin or T-super, or will I have to write him asking him to do so through the columns of the Bee Journal. Yours very truly,

M. F. SOULE.

While repeating the desire to profit by reference to faults or failings, it is only fair to the many who have helped by their contributions to make the American Bee Journal what it is, to take exception to the sweeping statement that "thus far all articles have been only such as experts might comprehend, and solely for their amusement." For a refutation of the first part, one need go no further than the second letter, in which is said: "It is within my reach to refer you to other articles that are intelligible even to beginners." As to the second charge, it may be that occasionally an article is written chiefly to exploit the writer, but unless it is believed that it contains matter of value to at least part of the readers of this periodical, the editorial prerogative is exercised, and the article is not published. There is a lot of the milk of human kindness in mankind in general, and

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bee-keepers have their full share of it; so when any one of them learns something that has been of value to him, immediately there arises in his mind the desire to share that knowledge with others.

Even supposing that most of the matter contained in these columns were of such nature as to be of interest only to those who have graduated from the ranks of beginners, would there be anything unjust in that? A little thought will suggest that beginners form only a small part of the clientele of any well-conducted bee-paper. The most part of bee-keepers who subscribe continue to be subscribers when they are no longer beginners, making the beginners always greatly in the minority. With this in view, perhaps our correspondent will admit not only that we "can't deal with beginners entirely," but that the larger body of advanced bee-keepers should be kept distinctly in view. Fortunately, things that are new to experienced bee-keepers are not always, perhaps not often, difficult of understanding for beginners.

The hint, however, should not be lost, and it will be well for all who write for bee-papers to keep in mind that if they write so clearly as to be understood by beginners, the extra clearness is not likely to be unwelcome to the more advanced.

It were "a consummation devoutly to be wished" that the title of every article should tell what the discussion is about, and no little effort is made to that end when the making of the title is left to the editor, as it generally is. That the effort is not entirely in vain is the opinion of at least one of the older readers, who lately wrote, "You have undoubted genius for getting up the right kind of headings." That "beginners could also learn" from articles with right headings is certainly true, but that their learning would depend to any great extent upon the headings, does not appear so very clear. Yet effort shall not cease to make headings in the future better than in the past, and any suggestions as to just how they can be improved will be thankfully received.

Whatever the lack as to information fitting each subscriber, there always remains the Question-Box open to him. Any question not already satisfactorily answered in the bee-books is ever welcomed. What more could be asked? The implied question of our correspondent as to whether Dr. Miller will answer a question that he has not been asked, nearly answers itself. In his department he is not writing essays, nor delivering lectures, but answering questions. How can he answer a question until it is asked? And would it not be a little hard on him besides furnishing answers to be obliged to guess at the questions as well?

It is our sincere desire that the American Bee Journal shall as nearly as possible meet the needs of our correspondent, and if he has not done so in the past, while thanking him for his interest in its columns, we earnestly advise him to make a full trial of the Question-Box; and if the information desired is not given in clear manner, he is at liberty to ask questions until he does get what he wants; always provided that the question be not of such character that Dr. Miller will be obliged to answer, "I don't know."

Reading Now for Next Season

The long winter evenings are here again. What a grand time it is to read the bee-papers, and get ready to introduce improved methods in the conduct of the apiary next season.

There are perhaps many copies of the bee-papers that failed to receive more than hurried glances during the busy season last year. Why not get them together and go over them carefully now? Some bee-keepers think it doesn't pay to take a bee-paper. Of course it doesn't if it is not read thoroughly.

It is true that with many bee-keepers 1906 was the poorest honey season in many years. But it will not do to become discouraged. The good seasons will come again in the future just as they have in the past. The thing to do is to be ready in every way possible to take the fullest advantage of the big honey-flows when they come.

Competition in every line is too strenuous these days to win much success unless one avails himself of all the possible short cuts in labor and management. And these are learned through reading what and how others are doing. Life is all too short to go by ox-team, or even horse and wagon to-day. We can not use the methods of our grandfathers if we would hope to get ahead these pushing, electric days in which we are living. We must not only read about the ways in which others have succeeded, but each must be quick to adopt, and also adapt, methods and plans in his own apiary that promise results.

Of course, all will want to do some experimenting, but there is no need of wasting time in going over things that others have proven to be failures, reports of which can be learned by reading the bee-papers and bee-books.

It may look as if we were saying all this in order to sell you something. It is not exactly that, but we want all our subscribers to get the most out of their bee-literature, which is really valuable if only rightly used.

R. L. Taylor, of Lapeer, Mich., has been re-elected chairman of the Board of Directors of the National Bee-Keepers' Association for 1907.

A Cradle Song has been received from Hon. Eugene Secor, of Forest City, Iowa, who wrote the beautiful words, and Robt. Chapman the music. It is a solo, and a very pretty one, suitable for either soprano or alto voice.

Mr. M. M. Baldridge, of St. Charles, Ill., one of the oldest bee-keepers in the United States, called on us recently. He is perhaps the best informed as regards the history of American bee-keeping of any bee-keeper living to-day. He knew those personally who helped at the beginning of things apicultural in this country.

Connecticut Bee-Keepers will introduce a Foul Brood Bill into the State Legislature before Feb. 1, 1907. J. Arthur Smith, Drawer 1325, Hartford, Conn., Secretary of the Connecticut Bee-Keepers' Association, would be pleased to receive names of bee-keepers throughout the State—not only readers of the bee-papers, but others as well. It will require the united efforts of the bee-keepers to secure the proposed law, which is needed to check and stamp out the disease of foul brood.

"Canadian Beedom" and J. L. Byer have formed a combination, as will be seen by referring to page 32. He takes the place recently vacated by Morley Pettit. Mr. Byer is one of the leading honey-producers and apicultural writers beyond our northern border. He is a specialist bee-keeper—depends entirely upon honey-production for a living for himself and family. And he doesn't believe in "race suicide" either, for, by referring to the first page it will be seen he has almost a Rooseveltian family.

We believe Mr. Byer will prove a worthy successor to Mr. Pettit, as the conductor of "Canadian Beedom." We bespeak for him at least a cordial reception, and also a warm place at the thousands of cozy firesides where the American Bee Journal will introduce him this week.

The Kretchmer Mfg. Co., of Council Bluffs, Iowa, has sent us one of the most unique calendars we have ever received. The flower-covered back-ground or card has fastened to it a half-section of a skep made out of tissue paper in partial imitation of honey-comb. Above the hive is a movable cover which can be raised and lowered, and on it is printed the business card of the firm sending it out. The whole is arranged to stand erect on shelf or table, and is a very attractive novelty.

"Langstroth on the Honey-Bee"—the well-known bee-book revised by the Dadants—has just passed into another edition. There have been some 75 pages added to it, and the whole work brought down to date in every respect. It is certainly a fine book, and should be read by every bee-keeper. It is really a classic. To become acquainted with the great Langstroth through the reading of his book is no small thing. Other bee-

books are good, but there is only one "Langstroth on the Honey-Bee." The latest revised edition will be sold at the same price as the one preceding, which is $1.20, postpaid. We still have a few copies of the old edition on hand, which we will mail at 90 cents each, if preferred, so long as they last. We club the new edition of this book with the American Bee Journal for one year—both for $2.00. So long as we have any copies left of the old edition, we will send it with the American Bee Journal one year—both for $1.80.

Mr. C. P. Dadant, who alone has revised the new edition, is now starting on the revision of the French edition. We believe this book has been published in the Russian language, also, and perhaps in several others that we do not now recall.

Mr. Frank Benton, Apicultural Investigator for the Department of Agriculture, at Washington, D. C., made us a very pleasant call last week, when on his way back from a year-and-a-half trip through Europe and Asia in search of new honey-plants and improved races of bees. When Mr. Benton arrived again in Washington he had made a complete circle of the globe, making it the most extended tour of investigation in the interest of bee-keeping ever undertaken and carried to completion. Mr. Benton was looking and feeling well after his long journey. Doubtless the Department of Agriculture will publish the results of his trip in bulletin or other form, so that they may be of service to bee-keepers.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

Archie Newman, of St. Johns, Mich., sends us the following poem:

GATHERING ONLY THE SWEET.

Wandering one day in the clover,
With eyes downcast to the ground,
Under a large head o'er hanging,
A little dead bee I found.

Long had she worked in the clover,
Busily all the long day;
On her return in the evening
Death she had met in the way.

Dusted was she with the pollen,
Full were her bags with the gold;
But she now lay under the clover
Stiffened with death and with cold.

Little Bee, thou hast done bravely,
Altho' death on the way thou did'st meet;
Yet all the day thou'st been busy
And gathered only the sweet.

May we every day act as wisely,
And every day duty so greet,
That should death before night overtake us,
We be gathering only the sweet.

McDONALD H. BROWN.

☞ I don't see how any one who keeps bees can get along without the American Bee Journal. It is so instructive. I have had many pleasant hours reading it.—MRS. KATE S. DEAN, of Wisconsin.

Death of Dzierzon—Other Subjects

BY PROF. A. J. COOK.

Few men of this past generation, or any other, have done for bee-keeping what this great man, who has gone to his last resting-place, has done for us. It has been said that von Siebold, and Leuckart, did more than Dzierzon in establishing the doctrine of parthenogenesis. I do not think that this is true. It is easy for the microscopist to turn his instrument at any point to confirm or refute any theory, like this. It requires a master mind to discover the principle, or fact, as Dzierzon was the first to do. I regard this as the most—or one of the most—wonderful discoveries in biology. It cut across all experience and observation as to the origin of the individual in reproduction. Dzierzon was a very close and accurate observer, or he would never have made the discoveries that led to the generalization. After the observations, it was no mean accomplishment to formulate the theory. After the theory was announced, it was no great feat to look at the eggs and see if actual observation sustained the truth as stated in the theory.

PARTHENOGENESIS.

What is this doctrine, that is so exceptional, that the great man discovered? Usually an egg will not develop until a sperm or male cell enters it and becomes incorporated with it. In case of bees, as Dzierzon discovered, the egg, if it is to develop into a drone or male bee, never receives a sperm cell; that is, it develops without fecundation. There are three cases in which such development will always occur. In case eggs are laid by a virgin, either queen or worker, they will develop, but only males will result. In case a queen becomes old, and all the sperm cells are used up, then she becomes a drone-layer, as no eggs after that will, or can, be fecundated, and yet they develop. Any queen, as she lays the eggs, may withhold the sperm, at will, and so only drone-eggs will be laid.

This, we see, is not only one of the most wonderful discoveries, but we see it has a very important bearing on the work and practice of bee-culture. No bee-keeper can claim to be abreast of the times, who does not understand this law of development among bees, and does not act upon it. This law is also called "Agamic Reproduction." It is not peculiar to bees, as wasps and ants follow the same law. With these, as with bees, the males are the result of Agamic Reproduction. In a small water animal—the Rotifer—there are two kinds of eggs laid by the females, one of which is not impregnated, and those develop, and so here we have parthenogenesis. We also know that Aphids reproduce all summer long with no males at all, and so they also reproduce by Agamic Reproduction, or without males.

PASTOR SCHONFELD.

Silesia, Germany, has also given the world another great bee-keeper, who has enriched our knowledge in this realm, as few others have. His work was principally confined to food and digestion, and here he did royal service. The function and anatomy of the chyle stomach was explained by him, and his views have been found to bear the test of fullest examination. We now know that the glands of the head furnish a ferment that digests the food-proteid food, and not the larval pabulum. This great man died at the ripe age of 85, while Dzierzon had reached the age of 95. I think both worked well towards the last. This is as we would have it.

DIGESTION IN BEES.

We now know that bees secrete the ferment that acts on the nectar in the honey-stomach, from large head-glands, upper head-glands, and the still larger thoracic glands. The pollen is mostly proteid food, and is digested in the true stomach. The ferment that does this comes from the lower head-glands. Thus the food that is fed to the larvæ is digested in the true or chyle stomach. I do not think that any scientist has done more, if as much, to enlighten us on the matter of digestion in bees, as this great man who has just gone to his long home.

RAINS IN CALIFORNIA.

As is well known, two things are requisite to secure a full honey crop in California. We must have enough rain, and we must have warm, genial weather. One year ago, we had ample rains, so that the fruit crop was fine, but the spring was very cold and damp, so that the honey crop was very meager indeed. This winter the rains are fine, coming in good abundance, and in fashion so that all is retained in the soil, and almost none runs off. We have now had nearly 3 inches. It looks now as if we shall have a good winter. We almost never have winds or cold in the spring so as to preclude honey-gathering, and we hope for a good season this year.

THE TREE PROBLEM.

It is an interesting fact, that the

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earth's surface is nearly ¾ water. I think 70 per cent of the surface is ocean. We see that to secure abundant moisture, to give us the "early and the latter rain," the seas must largely exceed the land. Nature was equally provident in her supply of forest growth. I do not know what proportion of the land was originally forest, but I think more even than ¾. We all know how valuable the forests are in our economy. What a wealth of lumber has come from our grand woodlands. We have felled them at an alarming rate, that we might turn them into gold. Many of the very rich men of our country, and of the world, have secured their riches from the forests, but only in their destruction. Do we appreciate the value of the forests as we should, in their better use of retaining the water as it comes in the rain? With the forests, the rain is largely retained and passes into the ground to keep it moist for plant-growth. When we cut them we destroy this agency for conserving the moisture, and make it certain that much more of the rain will run off, and so do no good, and often do great harm. There is no doubt that many lands have been converted into desert wastes by this ruthless destruction of the forests. Europe, wiser than we, has commenced tree-planting on a gigantic scale. She, also, by law prevents cutting of more of her forests. We must do the same, and must commence to replant, the sooner the better.

A Chance for Bee-Keepers.

We, as bee-keepers, should see to it that this work of tree-planting is carried on at once. We should see to it also that honey-trees are kept to the front. In Germany, the linden is one of the trees most planted. Let us work to have the basswood set out here in generous measure, in the East, and the honey and other locusts where they will grow and do well. The Tulip and Eucalyptus are well worth consideration.

Claremont. Calif.

Home Hive-Making and at Factories

BY DR. G. BOHRER.

On pages 1015 and 1016 (1906) Mr. Latham calls attention to the length, width, depth, and space around the frames of hives; that it should be made very precise, as to uniformity—to all of which I fully agree. He also calls attention to the cover, I think, which (I will say with him), should be made as good as it is possible to make it.

But one other matter which I find quite important is the bottom-board, which should never be less than ⅞ of an inch thick, and should be well cleated at each end to prevent warping. I have some hives, made by a bee-supply factory, that have bottom-boards but little over ¼ of an inch thick. They have 2 joints running crosswise. The result is that they shrink and let the bees pass out and in through these joints at will. Many hives with this kind of a bottom-board have been sold to bee-keepers, and are but little better than no bottom-board at all. It is not at all safe either to move them from one apiary to another, a short distance, or to ship as freight or express by railroad, with such flimsy and almost worthless bottom-boards.

The object sought in making hives at home, and out of lumber selected from boxes, is, of course, to get them as cheap as possible. And though once in a great while a hive may be, and no doubt is, fairly well made, as to dimensions, workmanship, and material, the rule is, according to such observations as I have been able to make, that the home-made hives are poorly made, in workmanship, exactness in dimensions, and in fitting qualities of the comb-frames.

Forty years ago I made quite a number of my own hives, and while I succeeded quite well I could seldom hire a carpenter who would made them exact, except I was present to direct in detail just how each part was to be made. And while our factories, as a rule, make hives sufficiently uniform in each particular factory, the different factories make their hives too different. It is desirable, as a rule, to buy hives from but one factory to be used in the same apiary. Supers of different depths are made. Shallow frames also differ very much as to depth. All these differences should be done away with, as they cause more or less trouble where hives made in different factories are used in the same apiary.

In short, let our factories give us hives made of good, substantial material in every part of the hive, and cease trying to make something out of next to nothing; for, a thin and so, worthless bottom-board, a division-board of the same kind, and a leaking cover, are abominations that bee-keepers can not condemn in terms too pronounced.

Lyons, Kan.

Experience with Bee-Sting Poison

BY WM. W. GREEN.

Having seen occasional references in the bee-papers to severe cases of poisoning from bee-stings, I thought perhaps my experience might be interesting. During the past 2 years I have received many stings that produced only the usual local swelling, but 4 times I have been affected very seriously. The last time I closed the hive at once, went into the house, got out my watch and clinical thermometer, and proceeded to take notes. Perhaps they will be of interest to some medical readers:

June 17, 1906, at 3:30 p. m., stung on neck near larynx by honey-bee. Received full charge.

One minute later, tingling of tongue, mouth, and throat.

Five minutes, tingling and burning of all mucous surfaces with swelling.

Ten minutes, face badly swollen, scalp tingling and hair erecting; eyes "full of sand" and almost closed; tears flowing freely; mouth, nose, and throat swollen internally, with choking sensation; face very red; temperature normal (98.6 degrees); pulse 96, and small.

Fifteen minutes, body very red all over, papillæ erected (goose-flesh) all over.

Twenty minutes, face swollen to bursting; applied cold wet cloths to face and lips; nasal passages closed; hands swollen, with intense itching; pulse 96, full and strong.

Thirty-five minutes, great pressure in head, throbbing of carotids and in ears; sensation of chilliness, but surface congestion not subsiding; temperature 97.7 degrees; pulse 80, small.

Forty minutes, swelling and redness of face beginning to subside, burning and itching of scalp very marked; headache; pulse 78; medium temperature, 97.8 degrees; drank a glass of water.

One hour, swelling of face and surface congestion subsiding; some chilliness; temperature 97.3 degrees; pulse 60, medium.

One and one-half hours, face still somewhat swollen, but surface congestion mostly subsided; tired, depressed feeling; temperature 98.0 degrees; pulse 62; drank a glass of water.

Two and a half hours, swelling of face almost gone, swelling of hands all gone, and hands cold; sensation of coldness predominant; temperature 98.0 degrees; pulse 62; took dose of whisky.

Four hours, ate small meal, the first since 9 a. m.; slight nausea afterwards.

Six hours, bad headache; face slightly flushed and swollen; slight eruption or rash on chest; *bee-odor* on skin very distinct. This was proved by three persons besides myself. Reminded some of us of formalin.

There was not much local swelling caused by the sting at any time, but the place was sore to the touch. My idea is that the whole charge was injected into a large blood-vessel, and carried all through the body at once.

On former occasions nausea was a more pronounced symptom, all the other symptoms subsiding for a time after vomiting, but returning again. The rash was also more marked.

Not being a "medico" I may have missed some points, but I at least did not complicate the symptoms by taking medicines, for my treatment is given in full above.

My apiary is not so large as it was once, as my experience is making me a little shy of the sharp-pointed bees.

Chicago, Ill., Aug. 19.

Production of Honey on a Large Scale

BY G. W. McGUIRE.

To make any calling in life a success requires both a theoretical and practical knowledge of the principles of the pursuit. And right here let's add one more word—SYSTEM. Every great movement of nature is conducted by a strict, divine system, which never errs. But in the frail systems of men we must keep culling out and adding new leaves to the adopted system of our pursuit, ever keeping an eye to the profit side, and everything to which there is no profit attached should be discarded. So in conducting a large business everything should be uniform and simple.

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I believe it was M. A. Kelley who says in Bee-Keepers' Review, "Bee-keepers burdened with a world of fixtures, long for the simplicity of other days." But it is debated as to whether it even pays to paint hives or not. Yes, or even dress the lumber. I have some hives in my apiary in North Carolina that have been in service 20 years without paint, and I expect to use them many years yet. And tin rabbets—yes, we will cut this off our bill, and use the plain wood-bearing for frames; and the swarm-catchers and self-spaced frames we don't want. Paul says, "Let us lay aside every weight and the sin that doth so easily beset us, and run the race with patience."

So we will suppose you have cast aside these useless fixtures that must go to the rear with the honey specialist. And we will just step across the winter into the lovely spring, after the warm sun has caressed each bud and bloom, and the bees have awakened from their long repose.

Now we will go along in front of the rows of hives—how nice the bees fly. See this colony lugging in the big loads of pollen. We will not open the hive as that would do more damage than good, just now. See that colony! How scant their pollen-loads! It is short of stores. We give it enough reserve honey to last till fruit-bloom.

See that colony. How the bees run around the entrance, fly off a little and back! Let's look. Oh, plenty of stores, but queenless. We verily let this alone, as it never pays to fool with queenless bees at this season. We will hive our first swarm here.

So our first inventory is made largely by externals.

April passes by. May comes in with her gentle showers. We now can make a thorough examination of the bees as the fruit-trees are in full bloom. On all strong colonies we put an extracting story, as this advanced room tends to allay swarming. And now every week we make a brief examination, keeping advance room on all colonies. When a swarm issues, we hive it on the old stand, placing the parent colony in a new place to build up for the fall flow.

So time goes by; the harvest is past, and the summer is o'er. We rig up for extracting the summer crop. 'Tis quite a job from 425 colonies—our present number. We run a 4-frame Cowan reversible extractor, and a cart holding about 30 combs is used to bring in the honey. I don't see how Alexander ever "gets there" with his little, frail 9-frame carrier.

We want a common cotton-tulle veil, Coggshall brush, and heavy butcher knife to pry loose the frames; also a Bingham uncapping-knife. The honey, as it leaves the extractor, runs down to the cellar into a large tank holding over a ton. From this it is drawn off into cans, barrels, etc. The combs are again returned to the bees, and about October we do our fall extracting.

Now we take an inventory of each brood-nest, noting the amount of stores, and this number is marked on the cover. We estimate 28 pounds sufficient to carry each colony till spring. Every colony that is short is fed till it has this amount. We feed in a 10-pound pail inverted over a pan, and set in an upper story upon the frames. We can feed 600 pounds of syrup in 30 minutes.

This is a glimpse of things in the apiaries of Jas. McNeill, where I have been assisting.

The autumn winds carry a chill, and the leaves are taking on their rosy hues. Soon I return to the South to look after my interests there.

Hudson, N. Y., Oct. 1, 1906.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Feeding Bees in Winter

Bees generally are apt to be in poor condition on account of the poor season the past year, hence it will pay every bee-keeper to look well ahead and feed if necessary. During a poor season much of the enthusiasm of the bee-keeper is lost, and his little workers suffer more or less neglect than when a paying crop is made. When the bees have gone through a poor season, they need close attention, and this given in time may mean money in the owner's pocket the following season, which may be a good one, while otherwise his bees may all have starved.

The wintering problem with us is mostly a question of stores, and if the colonies are found short of natural stores at this time, candy feeding should be resorted to at once. This is the safest thing to do, and the candy is easily prepared by liquefying granulated sugar with water and boiling it until it will harden if a little be dropped in cold water. This is then poured into large shallow pans and broken into pieces of suitable size, or into forms already the right size desired.

The cakes are laid over the brood-frames, directly over the cluster, 2 small sticks being placed under the cake to allow a passageway for the bees. An empty super can then be placed on and some covering material—a mat or old sacking—to retain the heat of the colony.

Full combs of honey from other or "rich" colonies are good, but I do not advise this to any great extent, on account of the many dangers of spreading diseases, especially if honey is obtained from some unknown source.

Corn-Tassel Honey Again

Editor Scholl:—I have just received the American Bee Journal for Dec. 6, and note what you and others have to say about corn-tassels yielding honey. I also note the extract you make from an article written by me for the Dallas News, and can not resist the temptation to write further on the subject—not that I have had cause to change my mind in regard to the various plants mentioned in the extract you made from the News, but you know it is said, "Smart men seldom change their minds, and a fool never." (I've not changed).

I am sure, yes, *very sure,* that bees get no honey from the corn-tassel blooms. Now note that I say from the tassel *bloom,* for it is a fact that in some of our very dry years that our corn, cane, etc., become infested with "plant-lice," which cause the corn to become covered with the so-called "honey-dew," and I have had bees store considerable honey from this source at various times in the past; but the tassel of the corn had nothing to do with the secretion of this so-called "honey-dew," for it was caused by the "plant-lice." And it would be an easy matter for any one to conclude at such times that bees were gathering honey fast from the corn-tassel blooms.

In the spring of 1886 (1886 and 1887 were the two extremely dry years in Texas) it was very dry, so much so that I was sure, after fruit-bloom, I would be compelled to feed my bees to prevent starvation. At the close of fruit-bloom the various oaks were in bloom, which the bees worked on vigorously for about 10 days, filling the hives almost full of pollen, but no honey, and the bees were almost at the point of starvation. In a few days, however, a change came. The bees were dropping at the entrances of their hives and roaring at night, that clearly showed a honey-flow season. I was puzzled at first to know what this flow was from, but a little investigation showed that a small green worm was gnawing and puncturing the small, tender leaves of the oaks, from which a sweet substance was oozing that the bees were eagerly lapping up and carrying to their hives; and this was as near a real honey-dew as I have ever seen. Strong colonies stored from 25 to 30 pounds of this dark honey, that had both the taste and smell of oak leaves.

Don't you see how easy it would have have been for me, or any one that was not a close observer, to have thought this honey was gathered from the oak blooms?

It is easy to determine when bees are getting honey from any plant, by

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doing as directed in the clipping from the Dallas News by me. See page 1003 (1906).

Rescue, Texas. L. B. SMITH.

Your explanation is good. The same has happened to me, and one season bees were getting much honey (?) from blooming sorghum, but observation showed that the bees were not only working on the bloom, but at the base of the leaves and the upper part of the stem, as well. The cane-stalks were covered with lice, and the bees took home the honey dew.

At another time the bees were gathering honey from the oaks, but an investigation showed that the real source was the "live-oak balls"—formed on the trees and caused by a gall insect—from which the "honey" was oozing in large quantities, and eagerly sought by the bees. The honey was dark brown and strong-flavored, unfit for human food, but came just at a time to be of much value in stimulating brood-rearing.

I have never thought the bees got honey, to any amount at least, from the tassels of the corn-plant, but I have gotten considerable corn-honey from the stalks after they had been cut off.

Report of the Ontario, Canada, Convention

REPORTED BY MORLEY PETTIT.

[Continued from page 14]

SMOKERS.

Mr. Miller never was accustomed to have any one use his smoker for him, so he makes a large smoker, the bellows 10½ inches long, with the barrel proportionately large. This is so he could use a large piece of wood, and so the use of the bellows would not make a flame. He holds the smoker between his knees when not in use, to avoid stooping to the ground.

Mr. McEvoy does not wear a veil, but smokes the bees so they won't sting.

Mr. Holtermann knows there is an art in smoking bees, yet it is wiser to wear a veil, and not smoke them so heavily.

Mr. Byer—It is better to smoke just enough, and not too much. The nozzle should be hinged on so it can not drop off.

Mr. Newton can easily tell by the sound of bees when and how much to smoke. As to a veil, he finds he can do more work in the same time by its use. He does not call for a large smoker, and likes the slip-over cover, not hinged.

Mr. Hershiser does not believe in being foolhardy about going without a veil, yet does not use it very much. He believes in using one when it is necessary, and not use too much smoke, because it will injure the flavor of the honey. He uses a large smoker because it does not need to be filled so often. He believes the latest Bingham smoker a good one, but has a weak point. It is not strongly enough connected with the bellows. Otherwise it is a good one.

Mr. Miller has a piece of light chain attached to the cover, and a hook on the barrel to fasten the nozzle on. To keep the fire from falling out there is a narrow rim in the nozzle, and then wads the grass in behind this rim so it does not fall out.

R. Lowey does not like the hood that turns the smoke to one side. He likes a straight nozzle. He does not smoke bees much, and uses pine bark, second-growth.

Mr. Holtermann likes a narrow and longer barrel.

Mr. Bailey has an arangement on the barrel of his smoker to hang it on the side of the hive. He uses green grass to keep the smoker cool.

Mr. Brunne has 110 hives and does not use a smoker at all during the honey-flow. He wears a veil and carefully handles the bees so as not to irritate them.

BEE-KEEPING AS AN OCCUPATION FOR WOMEN

As a rule, to the woman who has had no practical experience with bees, if she thinks of the subject at all, bee-keeping stands for honey, large profits, studies in natural history, and stings, the latter probably being considered the surest and most objectionable adjunct of the business. But a few years' acquaintance with the bee-keepers' pets will teach her that stings are but insignificant incidents in the bee-keeper's life, that honey is not always sure, nor profits always large, but the study of the nature and habits of the bee can be depended upon at all seasons of the year to yield a fund of interest to any woman who engages in this occupation.

The story of my experience with bees is probably my best means of showing what bee-keeping may be as an occupation for women.

I started bee-keeping in 1900 with one colony, for which I had paid $5.00. They did not swarm nor give any surplus honey during the summer, were weak the following spring, and gradually dwindled away till the hive was empty. I purchased another colony for $6.00, in May, 1901. When they swarmed I divided the bees and brood in the old brood-chamber, putting half into a new hive, and alternating each with frames of foundation. From the swarm I received 30 pounds of surplus honey.

In the spring of 1902 I had 3 colonies, which had given me so little trouble that I thought I could manage a couple more, so I purchased 2 strong colonies for $15.00. When they started to cast out first, second, third and fourth swarms, I began to have some idea of what bee-keeping meant. Having double brood-chamber, 8-frame Langstroth hives, the swarms were large, and when 2 swarms issued at the same time I had enough to do to lift the double hives away and replace with new ones before the bees began to return, the queen being clipped. I had heard of 20 swarms issuing at the same time in large yeards, but 2 at a time were enough for me just then. Those five colonies gave me 928 pounds of extracted honey, and increased to 16. At the end of the next season I had 35 colonies and 1400 pounds of honey from them. I had 30 colonies in the spring of 1904—5 having died in the cellar; they yielded about 2600 pounds.

In the spring of 1905 I had 33 colonies, when the weak ones were united with the strong ones; they stored 4700 pounds of honey and increased to 49 colonies. Last spring (1906), the number decreased to 40, 5 being queenless and 4 too weak to go alone. They yielded 1600 pounds of honey, and I have 39 colonies this fall.

As to stings, my first serious experience with stings nearly put me out of the business. It was when I had only 5 colonies. They seemed to be trying to make a record of 200 pounds per colony for that season, and when I attempted to take the honey off they resented my interference with their plans with such vigor that I left the hive open and ran to the house, saying to the folks when I got there, "There is no use talking about getting used to stings, I will never be able to stand such punishment as this. It is too much for me."

But I did not like to be beaten by the little bee so I fortified myself against another attack by covering my hands and wrists with long, heavy gloves, and succeeded in taking the honey off. Ever since that time I have worn gloves in handling my bees; even when clipping queens I used gloves with the finger-tips cut off. I know that wearing gloves is not looked upon with favor by the professional bee-keepers, but when it comes to the question of gloves or defeat, *wear gloves.*

There are other things connected with the occupation that are not very agreeable—the stickiness of the honey in uncapping; extracting, weighing and pouring into cans, which has won for the male bee-keeper the title of "Lick Thumbs." This is one of the mildest miseries, so easily reduced to insignificance by the use of water as to be scarcely worth mentioning, only we are treating of bee-keeping as an occupation for women, and she who takes it up is sure to find that this feature certainly belongs to it.

She may expect, too, considerable

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hard work and heavy lifting, for in handling the 8-frame Langstroth—one of the smallest hives—there are many 60-pound lifts, and if she be incapable of lifting that amount, a woman is likely to be handicapped by her inability to move or carry a full hive or super, or 60-pound can of honey. It is well enough to depend upon outside help for big days, when carrying in supers of honey for extracting, or in weighing it and crating it for shipment, or conveying the bees to their winter quarters; but for the common, every-day work of the apiary, which requires much muscular exertion, the woman who aims to become an efficient bee-keeper can not afford to depend too much upon outside help.

Bee-keeping may be looked upon as a healthy occupation for women in comparison with many of the avocations to which she is called, wherein exercise, fresh air and sunshine are denied her. It is true, there will be times when the humidity of the air and the intense heat of the sun, aggravated by the exercise she is forced to take, through the excessive activity of the bees consequent upon the weather conditions, may lead her to exclaim, "Why was I ever born to be melted like this?" but these conditions usually last for only a few hours in a day, and not very frequently through the season, and there are so many rare, beautiful days to enjoy, during the honey harvest, that one forgets the discomforts of a few hot, damp, wilty hours, in the pleasure of those when air, and sun, and bees, combine to make the bee-keeper's life worth living.

One very important part of the business is the melting of old combs. It is hard, sticky work to cut wired combs out of the frames and put them into the extractor. It is difficult for a woman to lift the lid, handle, screw and press off the extractor, without getting up on a chair, even though she be strong and tall; and this has to be done every time the extractor is filled with combs. The heat, steam and odor of hot wax, pollen, etc., make this one of the most objectionable features of bee-keeping; but as house-cleaning, with its dust, disorder, and discomfort, while in progress, proves such a delight to the housekeeper in its results, so comb-melting amply repays the bee-keeper by the improved sanitary condition of the hives; and from what we learn from conversations with experienced bee-keepers, items in the bee-papers, and deductions from papers read at conventions on the subject of healthy, disease-proof colonies, the renewal of clean, new foundation in the hive forms a very important factor in insuring healthy conditions in the apiary. And the possibility is that if woman, with her natural house-cleaning proclivities, should invade the realm of bee-keeping, this branch of business would be well attended to, and the problem of foul brood solved without any other formula.

There are many things in connection with bee-keeping that a woman can work at with great pleasure. Take that of opening up a few crates of bee-supplies and transforming the neatly-made and precisely-fitted pieces into hive-bodies, bottom-boards and covers, frames with top, bottom and sides of white, clean wood that fit each other like a charm, and fit the hives just as perfectly. Then there are the folding of sections, the wiring of frames and imbedding wire in foundation, etc., all neat, clean, fascinating features of the business.

My advice to the woman who wishes to take up this work would be to spend a season with an experienced bee-keeper, if she has an opportunity, paying strict attention to every detail of the work. She would gain thereby much knowledge that if won by her own experience would cost her dearly. An instance in point of this:

I had been told to put an empty super under a large swarm, to give them room to cluster and prevent them from swarming out again. I only grasped the one idea—put the super under—and did not note that it should be taken away at a given time; the consequence was that that colony did not store as much honey in the supers; and in the fall, when I strove to take out what I supposed was an empty hive-body, I found a peck or perhaps a half-bushel of trouble accumulated there, in the shape of combs built toward all the points of the compass, young brood in all stages, hundreds of bees crushed between combs that had fallen when the hive was lifted off, and a possibility that the queen was killed in the general mix-up. To have seen this done promptly would have saved me time, trouble and expense.

In conclusion, this record shows that a woman may expect the little busy bee to gather honey for her at an average yearly rate of 81 pounds to the colony; that stings may be subject to her, with stickiness also; that hard work, heavy lifting, perspiration, and disagreeable odors must be borne with fortitude; that careful attention to detail is imperative; and that there are many things in bee-keeping that are calculated to make it an attractive and enjoyable, occupation for women. MISS TREVARROW.

Meadowville, Ont.

Mrs. Scott, daughter of Samuel Wood, one of the oldest members, thought that Miss Trevarrow's experience was very encouraging to women bee-keepers.

Mr. Hershiser—This paper shows what women can do in this line. They should be able to hire inexperienced help to do the heavy work.

Mr. Deadman—The lifting may be avoided by using Heddon hives, and a wagon to draw supers to the extracting room, and many other labor-saving devices.

Mr. Craig has visited Miss Trevarrow's apiary and found everything neat and in order.

Mr. Hershiser likes to have the heavy lifting.

R. W. Roach—Women will notice things going wrong in the yard before a man would do so.

SUGAR BARRELS FOR HONEY.

"How would sugar barrels do for candied buckwheat honey?"

Mr. Timbers—If they would hold the honey till it is candied, they would be all right.

"How can we get 10 cents per pound for extracted honey?"

Always put out a good article.

Never offer buckwheat honey to a customer until he asks for it.

Mr. Hershiser—Well-ripened buckwheat honey is just as good as clover. The difference is a matter of taste.

Mr. Roach has learned to like buckwheat honey, and finds customers learn this, too.

Mr. Holtermann—It is important that buckwheat honey be well-ripened, and then people who are accustomed to it often prefer it to clover; and the more it is used the more they seem to like it.

Morley Pettit—When buckwheat honey is well granulated, it is more palatable than liquid.

Mr. Timbers—Next spring make the buckwheat honey all into bees, so it does not get mixed in with the white clover. *Pure* buckwheat honey is a better flavor than mixed, and the better flavor is obtained on the lighter soil.

Mr. Craig—Buckwheat is one of the honeys that won't stand re-liquefying. It injures the flavor.

Mr. Hershiser—You must go slow. Take 24 hours to liquefy a 60-pound can. As to value, I have found that buckwheat honey suits purposes of biscuit factories just as well as the white honey.

Mr. Timbers—It is all a question of locality. If we have more honey than we can retail, hold it over till the next year. Retail as much as possible. I retailed, in 1903, 3000 pounds from the house without soliciting a sale, and I live right in the country.

A. Laing condemned retailing at a wholesale price. It is not advisable to sell honey-dew at all for retail trade.

Mr. Holtermann and Secretary Kerby moved that where gross weight is put in a 10-pound and 5-pound pail, the label bear the word "gross weight." Carried.

Mr. Byer and Morley Pettit favored this idea.

Mr. Holtermann is in favor of legislation, but would not urge that.

Mr. Dickinson thought they should be compelled to put in net weight.

Mr. Hershiser puts net weight in 60-pound cans, but gross weight in smaller packages.

Mr. Timbers said we can not compel members to sell *net* weight when all other goods with which they have to compete are sold gross weight.

Laing and Byers—It is far easier to sell a package gross weight than to get pay for the package in any other way.

(Continued next week.)

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Conducted by E. L. Byer, Markham, Ont.

Introduction and Greeting

In stepping into the breach caused by Mr. Pettit's retirement from "Canadian Beedom," I feel that I am undertaking a somewhat difficult task. Be it remembered, Mr. Pettit is something over 6 feet in height, while "your humble servant" is—well, somewhat shorter, to say the least.

Somehow, I can not help but feel that our abilities and mental capacities are about in the same ratio of comparison as our physical stature. However, being by nature an optimist, I shall not worry over things that I am not responsible for, but shall endeavor to make the best of opportunities, and with this end in view, looking for the hearty co-operation of all, and especially of Canadian readers of the American Bee Journal, I shall try to make this department interesting and instructive.

While, as heretofore, our corner will be called "Canadian Beedom," the writer has intimated to Editor York that the privilege is reserved of "meddling" in "Yankee" affairs if occasion permits. As I purpose to abstain from doing anything of an extraditable nature, I do not anticipate much trouble along this line.

Permit me to wish all the readers of the American Bee Journal a Happy and very prosperous New Year.

Markham, Ont. J. L. Byer.

Maintaining High Prices of Honey

Is it possible to maintain the present high prices of honey? Probably most readers of the American Bee Journal are aware that on this side of the "line" a very short crop of honey was harvested last season. As a result, prices of honey are unusually high—10 cents a pound wholesale for extracted being the common quotation all fall.

At the annual convention of the Ontario Bee-Keepers' Association, held in Toronto, in November, 1906, President Sibbald, in his address, thought that honey had advanced to where it ought always to stay. In his opinion, honey is a cheap and wholesome food at 12½ to 15 cents per pound, and at those prices it compares most favorably with other foods. The most of us are inclined to agree with Mr. Sibbald, but the question arises, How, in a good year, are we going to maintain present high prices?

In the discussion that followed President Sibbald's address, Mr. Holtermann thought it would be unwise to try to get present prices in years when we had a full crop. While I am, for obvious reasons, inclined to agree with Mr. Holtermann, yet in common with most bee-keepers, I suspect I would be *willing* to keep up the high prices, if it were possible to do so.

One thing seems certain, and that is, Canadian bee-keepers, for many years to come, should have no reason to sell at the low figures that have prevailed in some years. Our markets, right at our doors, have not been half worked in the past, and I think we would be safe in assuming that at least three times as much honey could be used in our own vicinity, as is the case at present, provided systematic methods were used to bring about this result.

With the tremendous influx of population into the Provinces of Manitoba, Sackatchewan and Alberta, and with comparatively little attention being paid to apiculture as yet in these places, there can not help but be a great market there for years to come, for Ontario honey. At present everything is prosperous there, and experience has proven to me that if you send them the right article they do not "kick" about the price.

One great barrier to trade with the West at present, is the high freight-rate, but with two more transcontinental railroads in course of construction, possibly we may hope for some relief in that matter.

In connection with the matter of keeping up prices, the Crop Report Committee, working in conjunction with the Ontario Bee-Keepers' Association, is doing a grand work. When their report was sent out last September, some bee-keepers who happened to have a fair crop thought the news too good to be true, and I received letters asking questions something like this:

"Is the crop as short as reported by the committee? We came very near selling our crop the other day for 8 cents. Do you think there is a possibility of getting 10 cents, as advised in the committee report?"

As a result, if I am correct, I believe that every one of these enquirers received in the neighborhood of 10 cents, f.o.b., for their honey. Certainly co-operation paid these bee-keepers this year, and the lesson is not apt to be forgotten another season.

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Drones for Service.

That Irish editor makes me mad. Just as I was pluming myself on being, like Cassandra of old, the solitary prophet and witness to the truth, up he pops to remark that over in Britain my view (that when getting drones for service numbers don't count much) is common enough. So! Wish somebody would take the contract to furnish those common-enough fellows with tongues—tongues with a hung-in-the-middle arrangement. But as that editor is one that Digges in the opposite direction, maybe he thinks that one believer, and he a deaf-mute, would be, for the doctrine in question, common enough. Page 993.

The T-Super Fight.

Dr. Miller and Frank H. Drexel certainly make a good fight for the T-super on pages 995, 996, and 997. Then why don't I adopt it myself? Ah, that's different! The double-deck section-holder arrangement is the kind for an old played-out like me, who never gets anything done. Also, I feel assured that in changing my system as a whole for the T-super system as a whole, I should greatly increase the number of my unfinished sections, now delightfully small. Also the job of cleaning the bottoms of those sections is going to forever bluff *me* off. Propolis is bad here, and my lazy sections have a habit of staying where they are put the entire season. You see, my locality is so poor a one that I am seldom driven to take anything off. More prompt taking would make the looks of my honey better, but the real quality not so good, with the quantity usually the same. And my old customers have learned to be satisfied with my honey without requiring it to be ghostly white. Some one has recently written that the double-deck section-holder, as A. I. Root originally in-

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vented it, was no longer in use. It will stay in use as long as I keep bees, I reckon—unless I should change my strain of bees. Not every really good strain of bees likes to store honey so far away from the brood-nest when there is only a little coming in, anyway; but mine do it all right.

WATERING ANIMALS—BEES AND GRAPES.

Prof. Cook may help us in some things besides bees. In watering large animals it is oft quite a job to carry so much. And we may feel that they are drinking more than is good for them, and just making us needless work, and yet we don't think it's nice to deny them what water they want to drink. Let them have more *time* for the water to pass into their blood and the thirst will not persist until they have swallowed down all their great stomach can hold. Just now I am carrying water to 3 cows daily. They take 9 big buckets. Taking Prof. Cook's hint would be to give each cow one bucket, then do some other chores taking 5 minutes or so, then give each cow one more. Given in that way, perhaps 6 buckets would do better than 9, and be all they would take.

I note with surprise (but not at all with displeasure) that Prof. Cook wishes to avoid saying that bees *can not* puncture grapes; he rather suspects that they could if they got at it right. I believe as respectable a witness as John Pocklington, originator of the Pocklington grape, testified that he *saw* a bee puncture a grape—not only saw it, but watch in hand he timed it. I forget the time he named. Part of the time another bee was mounted on the shoulders of the first one helping to bear down. Well, what was this bee's method of operation? Suppose you wanted to perforate a base-ball with your thumb-nail. You would press hard and rub back and forth on exactly the same line. With long patience it could be done, I take it. Bees' mandibles are shaped much like thumb-nails. If I got Mr. Pocklington aright, his bee used one mandible and rubbed in just that way. Our safe defense, if we don't want to get cornered, is not that bees are incapable of perforating, but that they almost never learn how. See, I'm not "holding my whist" this time, when I can get behind Prof. Cook, out of sight. Shall I tell about the *other way* bees destroy sound grapes? I think I've seen a little of that—but have never seen the way just mentioned. It's to cluster on the bunch till they cover it all up out of sight—to get themselves into a boiling frame of mind, like they were balling a queen or trying to force a hole into a hive you had just shut them out of when they had been robbing it. I don't know which counts most, the heat they generate, or the joint power with which they pry the berries around; but the joint result is to start the berries from the stems, after which, of course, the rest is easy. Page 998.

☞ I think a good deal of the American Bee Journal. When I sit down to read it I don't know when to stop.—MICHAEL MCADAMIS, of Illinois.

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister in Charge in New Zealand

Miss Livesay has been placed in charge of the State Apiary of New Zealand, according to an article in Gleanings. She is a lady with English training, and "she hopes to popularize the industry among the farmers' wives and daughters. The supervisor, Mr. C. Sinton Hutchinson, is one of the best scientific bee-keepers in the country. The Langstroth hive is used, as is the case throughout the country, its general adoption being due to the efforts of Mr. Hopkins many years ago. American bee-literature, too, is read far more than English, which, indeed, is but rarely seen.

"The bees at the State Farm are hybrids, and nothing has been done yet to improve the strain; but next season Mr. Hopkins will import some of the best Italian queens. There will also be observatory hives and probably a library."

Not an Irish Sister—North Pole

The editor of the Irish Bee Journal says:

The American Bee Journal is called in the States the "Old Reliable," and is one of those ever-fresh, ever-welcome publications that no bee-man worth a dollar and a half can afford to do without. Of that attractive Journal, one of the most delightful departments is that of "Our Bee-Keeping Sisters."

Then, after some kind words about the head of this department, he continues:

Well, Miss Emma M. Wilson does us the honor of reading the Irish Bee Journal, and treats us very kindly in her department of the American Bee Journal. Our editorial on "Drivel," page 37, caught her attention, and, as with so many of us, the quotations we made amused her immensely. But how does she begin her article? "Woman's Life, a journal presumably published in Ireland," she says!

There you are again!

We have already so much to answer for in this country, a little more or less makes no difference. The article quoted was so unblushingly ridiculous that it must have emanated from one of the "writers for women's journals" here, and the publication itself must, of course, be Irish! If the sun, moon and stars, including the Milky Way and the Great Bear, were suddenly to drop into New York Harbor, the cry would immediately go up that an Irishman did it. It strikes us that we have here the secret of many national disasters and failures. Take, for example, the various North Pole exploration expeditions, of which America contributes her share, and each of which makes "a record," but with just as little hope of success. Why? Because some one is constantly shifting the Pole farther north; and the explorers will have to set a dozen policemen on the chest of every Irishman in the Arctic regions before they can "discover the Pole!"

But, as a set off, let us assure Miss Wilson that the publication which has given good, healthy laughter to hundreds of us, has its home in London, where the apicultural knowledge of Europe is concentrated, and is no more Irish than are the Falls of Niagara. This, we feel sure, will be welcome information to the gifted lady who weekly delights us and all other readers of the American Bee Journal.

With this full explanation care will be taken in the future to keep in mind that a Woman's Life is not necessarily an *Irish* Woman's Life because mentioned in the Irish Bee Journal.

But is there not some mistake on the part of Editor Digges when he speaks of some one shifting the Pole farther north? Does he not know the Pole is lost, and that frantic efforts are being put forth to find it? Now how could any one shift it further north without first finding it? But if it had been found by any of "those Irish" that he speaks about as "always on the borderland of starvation," instead of shifting its place would they not have cut it up for firewood? In which case is it worth all this bother to try to find the stump?

Now, if Editor Digges wants to make sure that the Irish Bee Journal shall not be misquoted, the way is very easy: Just let him stop making its pages so bright that one is constantly tempted to quote from them.

Yellow Sweet Clover—Are There Several Kinds?

If I were sensitive about being called a "Sweet Clover Crank," I would certainly "let up" on writing about it, for a little while, at least.

I had a letter a short time ago from a valued friend of mine. He is a sweet clover expert, by the way, and few have done more to remove the prejudice against the beautiful "Melilotus alba."

He wanted to ask me about some sweet clover he had been growing. He said he bought 25 pounds of seed from a reliable firm (a bee-supply house), and sowed it on March 31. I will quote from his letter:

"The seed grew well, and on May 8 began to bloom. Soon there was a sea of yellow bloom everywhere that I had scattered the seed. This clover grew about 12 to 14 inches high, but—*I never saw a single bee on this mass of sweet clover bloom.* The plants of this

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clover appear to be dead now. What do you think of this yellow sweet clover? Do you believe it to be the genuine article?"

I wrote my friend that I did not know what he had gotten hold of unless what I have heard called "yellow blossomed alfalfa." "Melilotus officinalis" it certainly is not. That is a *biennial*, and does not bloom the same season it is sown. Besides that, it grows much higher than this plant described by my friend.

I spent an hour or two lately in looking up about "yellow sweet clover"—what others have said of it in years gone by. To me it was very interesting reading.

In the first number of the American Bee Journal for 1897, Mrs. Lambrigger, of Knox Co., Nebr., writes of "yellow sweet clover" with great enthusiasm, ranking it *far ahead of the white kind* for bees and *for forage*.

I got my first seed from Mrs. L. years ago, and I say that she did not overrate the merits of this clover. For myself, the longer I have it the more I appreciate it.

Mrs. L.'s article started M. M. Baldridge—a sweet clover expert in Illinois. He said:

"I don't believe the yellow sweet clover is a better variety than the white, but *there may be more than one kind*. I have seen the yellow growing in this city for years, but never saw many bees on it," etc.

I am really curious to know what Mr. Baldridge thinks of yellow sweet clover *now*.

John McArthur, of Ontario, another sweet clover expert, was also aroused. He said that in writing of "Melilotus officinalis," his experience dated back 17 years. Here is a quotation from his letter:

"I would say, emphatically, that the yellow is not equal to the white in many respects. It blooms at a time when we have an abundance of White Dutch and alsike clovers, and very few bees will then be seen upon it."

The letter is quite a lengthy one, and I don't feel at liberty to quote it all here, but there is something to which I must call attention, because it would seem to show that he has not my kind of yellow sweet clover—not "Melilotus officinalis." He says:

"Examine the seed-pod and you will find that it contains from *one* to *three* seeds—different entirely from the white in this respect, which carries only a single seed in each pod."

"Gray's Manual of Botany," which, by the way, mentions the yellow melilot *first*, says the seed-pod is one and two seeded. I find this to be so with *both of them*. The pod has usually one seed, but occasionally *two*.

I took pains to examine the seed-pods minutely. In no case did I find *three* seeds.

The seed of the two varieties is almost identical in appearance, but that of the yellow is a little smaller. That was 9 years ago. It would be interesting to hear from Mr. McArthur again.

In this same volume of the American Bee Journal there was an account of a bee-keepers' convention in which Editor York read a letter from the late Mrs. L. Harrison, which is worth republication at the present time, when there is renewed interest in yellow sweet clover.

Bee-keepers, I *know* there is great interest in it just now, or I would not be getting letters from *all over* in regard to it. Mrs. Harrison says:

"It blossoms a month earlier than the white, and is more profuse, looking like a yellow sea. It makes finer hay than the white, and is a greater favorite with the bees."

In the Bee Journal for 1900, there is a long, interesting article on yellow sweet clover, by John R. Schmidt, of Hamilton Co., Ohio. As to its time of blooming, he says:

"This year about the middle of May, which is at least *four weeks ahead of the white variety* of sweet clover."

Now, I have by no means made an exhaustive study, nor called all the witnesses, but I have given enough to show that the American Bee Journal has done its part toward giving *light* on this subject. Bee-keepers, give us the facts, and don't let me do all the talking! I like to stir things up a bit, and then take a "back seat," and watch the fray!

(MRS.) A. L. AMOS.

Custer Co., Nebr.

Honey for the Hands

Until some one is bright enough to invent a machine to wash dishes, here is an item, taken from Vick's Magazine, that will always be timely for most of the sisters:

Rub the hands well with corn-meal and vinegar after washing dishes, etc.; it will then clean them; then put a few drops of honey in the palm, add a little water, and rub it well into the skin; it will make them soft and white. Do not use honey enough to make the hands sticky.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Dummies in Place of Combs

What do you use for dummies in hives when taking out combs? TEXAS.

ANSWER.—Simply a pine board about 5-16 of an inch thick, with a top-bar. Formerly I had them about the same depth and length as the brood-frames, but it is easier handling them if they are an inch or so shorter; that is, ½ inch or so shorter at each end, and at the part of the hive where they are used the the bees don't fill up the vacant space with burr-combs. I like shortened ends for top-bars of brood-frames, depending upon staples driven into the end-bars just under the top-bars to space the frames endwise, but that doesn't work well for dummies. The top-bar of a dummy should be nearly long enough to fill up the space; 1-16 of an inch being play enough. There is less danger of the dummy warping if it is cleated at each end, the cleat being fastened not on the side, but on the end, so that the thickness of the dummy is not increased at that part.

Dampness in Hives

I have 12 colonies of bees under a shed, opened only to the east, or front. A while ago I made a case of heavy building-paper, put this around the hives and filled up the space between with shavings to protect the bees from cold, leaving the entrance open. In looking them over to-day I found a little ice on the alighting-board, and also a small icicle in the entrance of one of the hives, showing moisture inside. I would like to know if this will do any damage. If so, how can I help it? I have noticed on two of the alighting-boards a little honey. What is the cause of that? The hives all have flat covers.

VERMONT.

ANSWER.—It is nothing unusual in winter time to see a little water trickling out of a hive-entrance, and of course when it is cold enough such water will freeze. In most cases no serious harm is done. The vapor from the bees, or the bees' breath, condenses, settles on the cold walls of the hive, and when there is enough of it it trickles down. There is, however, danger in two directions. If the moisture should settle over the bees, and then trickle down upon the cluster, harm would follow. To avoid this, see that there is plenty of packing on top. Another danger is that the ice may fill the entrance entirely and smother the bees. Keep occasional watch, and clean out the entrance. Too small an entrance may favor condensation of moisture. A strong colony may have an entrance equivalent to 3 or 4 square inches. The honey running out looks a little like too small an entrance, as the moisture probably settled on combs of unsealed honey, thinning it so it ran out of the cells.

"Testing Swarms Before Hiving Them"

On page 931 (1906), C. W. Dayton gives an article with the above heading, that I have studied carefully, and it seems as if at least some of the views he holds are not in accord with generally received opinion. Which is right, the old view or the new? Kindly give your own view in detail. ILLINOIS.

ANSWER.—Your question is a very broad one, as you do not say to what part of Mr. Dayton's paper you refer. There are some things in it that I am not sure whether I understand correctly; and without a full understanding it is not always safe to express an opinion. I feel very sure, however, that Mr. Dayton will be willing to correct any misapprehension on my part.

If I understand correctly his first paragraph, I think many experienced bee-keepers will be

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found who do not agree with him. He tells of "the dogs in Massachusetts, which, shorn of their tails, became a race of dogs which neglected to grow tails." I don't know whether that's meant for a joke or not, but unless meant in earnest it can hardly have any bearing on the case. I read within a week of a salve so wonderful that upon being applied to the stump of a dog's tail that had been cut off, the tail promptly grew on again. Then the salve was applied to the tail that had been cut off, and it promptly grew a dog onto the tail. These two dog-tail stories are alike in one respect; that is, that one is probably as reliable as the other.

Never mind the dogs; lets get back to the bees.

It is a matter of great importance to know whether it is true, as Mr. Dayton says in his first paragraph, "that the probability is that if the bees would not swarm they would breed only enough to keep the colony intact." For upon one's belief in that regard depends one's practise as to restraining or encouraging swarming. But if it be true that the result of no swarming would be colonies so small as to store only honey enough for their own use, as Mr. Dayton says, then one would naturally expect that where they come very close to no swarming they would come very close to such small colonies. If I am correct, about 95 per-cent of the colonies of the Dadants do not swarm; if there has been a very material diminution in the size of the colonies, it seems to me that so candid a man as C. P. Dadant would have mentioned it. And if the general opinion is correct that a large hive is one of the most important factors in the prevention of swarming, is Mr. Dayton working in the right direction when he says (page 503), "My hives are abundant in size, early or late?"

I am not sure whether I understand just what he means when he says: "It appears reasonable to me that swarms and honey-gathering should go hand in hand." At any rate, my bumper yields have always been from the colonies that made no offer to swarm. I think it is the general belief that bees most given to swarming are not the best gatherers.

Mr. Dayton says, "It will not be proper to give this matter of breeding our bees entirely over to breeders." If by "breeders" he means the men that sell queens, Mr. Dayton has not a very large following in his belief. At least, whatever their belief, in their practise the great majority pay little or no attention to the matter of breeding their bees except to buy occasionally a queen of fresh blood. But the multitude is wrong, and Mr. Dayton is right, most emphatically right.

As to the remainder of his article, there are some things that I'm not sure I understand, and some things I am sure I don't believe. I don't understand how it can be a common thing for bees of a swarm to return to the old hive when the queen is not to their liking, and yet not to return when they have no queen at all. I don't understand what practise Mr. Dayton advises when he says, "The only swarms that it is advisable to hive in a new location are those where the bees all stay;" for I don't understand how he would tell about it without hiving. I don't believe that bees of a swarm do much returning, but I am ready to do so upon sufficient proof.

Uncapped Sugar-Syrup Stores for Winter

I am wintering my bees in the cellar, and they seem to be doing all right now (Dec. 18). I gave them a thick syrup made of brown sugar. While the syrup was stored in the combs by the bees the latter part of September and first of October, they did not cap it. Is there any danger of its becoming so hard in the comb that they can not use it? and will there be enough moisture in it for them? or should I supply them water to drink? How could I best supply this water for them, if you think they may need it? I took the bees out of the cellar one day last week and they had a good flight.

I am reading two books now all the spare time I have. One is "Langstroth on the Honey-Bee," and the other is "Manual of the Apiary," by Prof. Cook. I think they are excellent works. I also take great pleasure reading the "Old Reliable." I mean to study all I can along this line, and handle my bees as scientifically as I can. I love this kind of work. IOWA.

ANSWER.—I don't believe there is great danger that the syrup will become too dry. The danger lies in another direction, especially as the syrup was unsealed. Granulated sugar is about the only sugar used for winter stores, and there is danger that before spring diarrhea may result from the brown sugar. If so, the only thing is to wait patiently for spring weather in which the bees can fly, hoping that it may come early. There is one thing, however, that I would try, although I'm not entirely sure it helps diarrhea. It is to warm up the cellar. A stove in the cellar is the best thing. Hot stones may do; bottles or jugs of hot water well corked. But no hot water uncorked. Don't use an oil-stove unless you can air out well, as the resulting fumes foul the air. Run up the temperature, if you can, to 50 or 60 degrees.

Pacific Coast Murmurings

PERFUMES OF BEES, FLOWERS, AND WOMEN.

Some of the readers of the American Bee Journal may be opposed to there being any reference made in its columns about the aspirants for high political office. Under ordinary circumstances such should be the rule, but there are some persons who hold that such notice should be given. For a reason for such a view, they hold that these aspiring citizens are bee-keepers, every one of them. At first, I did not think that all the politicians of this broad and enlightened land could be apiarists. On expressing my disbelief, I was met with the reply, "Why, aren't they bee-keepers, for every one of them has a bee in his bonnet, and if that does not make a bee-keeper, well, what does?" Perhaps it does, but it is almost like straining at a gnat and swallowing a camel. Let's take it for granted that they are bee-keepers, and notice some of the more prominent ones—the ones who seek the highest office in the gift of our citizens.

William Jennings Bryan has already been noticed. He cropped up rather suddenly as a double-barrelled bee-keeper, inasmuch as he keeps the genuine article—the pets of all true apiarists—in his back yard, and this other sort (the politician's kind) is hived beneath his soft-felt hat. Well, that's good. I'm glad Billy Bryan likes bees and honey, and he's welcome to the bee in his bonnet. I do not pretend to be boosting him, or any of the other distinguished citizens (not even our good, strenuous [sic] President, Theodore Roosevelt), into high places.

There, I've named two bee-culturists, and here goes for another. He has the worst case of this kind of bee-fever that ever got loose in the United States. Whether the bee will ever hatch out a nestful of trouble like a queen-hornet does, I can not predict, and it is not my place here to intimate. Like myself, he's a native Californian, but so many bad things have been said of him that I have not yet come to fancy him. As a trust-buster, he may appeal to the best side of true Americans. I am referring to William Randolph Hearst, the millionaire newspaper publisher.

Having named all the principal *single* bee-keepers in the United States, I trust there is no one who will say that I am unfair. Just watch me and see how I shall roast any of them that gives me a chance, if he goes "forninst" the interest of the bee and honey industry.

Speaking of Hearst a moment ago, reminds me that his knowledge of bees is very crude; in fact, the following editorial from his San Francisco Examiner of Oct. 2, displays an immense amount of ignorance. For instance, note the sub-head. Who ever heard of a drone-bee stinging any one, whether the latter was perfumed slightly or profusely? Mr. Hearst may have written this editorial, or it may have been done by some one of his writers. He has some excellent pencil-pushers, but it is quite evident none of them penned this rank editorial. I doubt very much if bees will, at all times, go for a scented person—one artificially perfumed. We have been told from infancy that bees do not like the odor of perspiration; that that of the negro and that of the horse are so obnoxious to the bee that the offending smells are attacked with formic acid, not as a neutralizer but as a killer. The fumes diluted (carbolic acid) is used as we use smoke to scare them into gorging themselves with honey, thereby making them good-natured.

I am not writing in defense of the perfumed woman, for I abominate the rank odor exhaled from some of these misguided creatures. A little perfume of a "genteel" variety may be excused. It may be said that the Creator gave charming odors to some of the fairest flowers, and that He would not hinder those others of his dainty flowers—fair femininity—from "laying on" themselves some of the odors He saw fit to bestow upon the lily and the rose.

Well, here is the editorial, without further comment. It's long, but it is worth reading:

The Bee of Good Taste

DID YOU KNOW, FAIR LADY, THAT HE WILL STING ANYBODY USING PERFUMERY?

The trusts, the earthquake, foreign riots and all the rest of the news shall not prevent our protesting occasionally against the dreadful *insistent* perfumes with which the women of to-day disfigure themselves. In public places suddenly an awful faintness comes over the crowd. There is a moment of horror, of gasping, and the dazed mind recognizes another one of those big or little, or yellow or black, or fat or thin women that wear the terrific perfumes.

We are glad to be informed, and to publish here, the fact that the self-respecting honey-bee—that knows everything about *real* perfume—*detests the artificial, hideous, high-smelling product with which women make themselves terrible.*

The intelligent, sane, moral bee likes good, clean flowers. And it likes good, clean human beings. You may go around its hive as much as you please while you are normal and self-

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respecting—if you don't bother the combs or the young ones.

But approach the bee-hive with any one of these terrific, high-smelling "odors" or perfumes attached to your person, and the self-respecting bees will pour out and sting you until you leave.

One of our readers informs us that experiment, often repeated, proves absolutely that the bee will not tolerate the insult to flowers, or to womanhood, implied in the wearing of the abnormal and offensive perfumes.

Women, be guided by the wisdom of the bee as you are inspired by that little animal's industry. Be your ownselves. Be the natural flowers that Nature made you. Don't allow anybody to peruade you to make yourselves hideous with the perfumes that are a hundred times worse than the noise of a boiler-shop.

You wouldn't go around with a horrible, clanging, banging wash-boiler or beating drum to disturb the people. Then don't disturb them with "perfumes" more vicious and unforgivable than the savage tomtom. Be clean. Throw perfumery away.—*San Francisco Examiner.*

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CONVENTION NOTICES.

Colorado.—The 27th annual convention of the Colorado State Bee-Keepers' Association will be held at the Chamber of Commerce, Denver, on Tuesday and Wednesday, Jan. 22 and 23, 1907. The convention opens at 10 a.m., Tuesday morning. A good program is being arranged, and all bee-keepers should be present. This is Stock Show week in Denver, and a 1⅓ fare can be secured from all parts of the State.

Ft. Collins, Colo. G. J. TOMLIN, Sec.

New Jersey.—The New Jersey Bee-Keepers' Association will meet at the State House, Trenton, on Wednesday, Jan. 16, 1907, at 10:30 a.m. Addresses will be made by the President, also by Chas. Stewart, foul brood inspector, Sammonsville, N. Y.; H. S. Ferry, J. H. M. Cook, and others. Much attention will be given to the Question-Box. All bee-keepers, and especially ladies, are cordially invited to attend. W. W. CASE, *Pres.*

G. N. WAUSE, *Sec.*

Nebraska.—The annual meeting of the Nebraska State Bee-Keepers' Association will be held in the Experiment Building at the State Farm, Lincoln, Nebr., Jan. 16, 1907. An interesting program on practical subjects has been prepared, and bee-keepers will be benefited by attending.

LILLIAN E. TRESTER, *Sec.*

Lincoln, Nebr.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

Some Good Clubbing Offers

A good many subscriptions to the American Bee Journal should be renewed at once. We wish to call special attention to the clubbing offers below, which we are sure will commend themselves. **The American Bee Journal one year and your choice of one of the following:**

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No. 1—Dr. Miller's "Forty Years Among the Bees" (book alone, $1.00)	$1.80
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Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

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American Bee Journal

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One of the most difficult tasks of my life is that of writing an advertisement of ADVANCED BEE CULTURE. Be as modest as I can, it still smacks of egotism—sounds like a parent praising his own child. If the book had been written by some other man, the writing of an advertisement would be comparatively easy. However, even at the risk of laying myself open to ridicule, of becoming a laughing-stock, I am going to *forget* for *once* that I am its author and publisher, and write as though of another's work.

When 18 years old I visited an apiary in swarming-time; saw bees hanging in great golden-brown clusters from the swaying boughs of the old apple-tree; saw the snowy white combs growing as by magic; saw the waxen cells filled with nectar, and inhaled that *sweetest* of all perfumes—the odor from a bee-hive in harvest time. I was filled through and through with enthusiasm. Here was a business that was most truly

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I was that day born a bee-keeper. There was no longer any doubt as to what should be my life occupation. I at once began buying bee books and journals, and visiting bee-keepers, and studying the business from every possible standpoint. It was six years later before I was able actually to engage in the business, but I then possessed as thorough a theoretical knowledge of bee-keeping as does a young physician of medicine when he begins to practise.

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Run the Whole Gamut

of bee-keeping, time and time again. I have practised all sorts of methods for artificial increase. I have battled with the difficulties of natural swarming; I have produced tons and tons of comb honey; have tried my hand at extracted-honey production; I have reared and sold thousands and thousands of queens; I have exhibited bees and honey for 15 consecutive years at from one to half a dozen State fairs. I have wintered bees in all sorts of ways, outdoors and in, in cellars and buried in clamps; I have attended nearly all of the conventions of a National character;

Visited Hundreds Bee-Keepers

in their homes, scattered from ocean to ocean and from the lakes to the gulf. I have read all the books and journals; for nearly twenty years I have published the REVIEW, enjoying the confidence and correspondence of bee-keepers scattered all over this country; in short, I have been a wide-awake, enthusiastic, practical, actual, work-a-day, bread-and-butter bee-keeper all of these years, making a living for myself, wife, and little ones, *out of bees*.

ADVANCED BEE CULTURE is the

Ripened Fruit

of these years of varied experience; it is the crowning effort of my life. I look upon it as the best piece of work that I have ever done, or, perhaps, ever *will* do. It is written from a bread-and-butter standpoint. It teaches how to make a living—yes, more than that,

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From all these sources I have mentioned, from my own experience, and that of the men with whom I have associated, I have described the most advanced, the *best* methods, of keeping bees for *profit*. I begin at the opening of the year, and go through the season, step by step, touching briefly but clearly and concisely, upon all of the most important points, showing their relationship one to the other, and how, joined together, they make a perfect whole. If I could have had this book twenty years ago, and followed its teachings, I might now have

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I say it fearlessly, because I *know that it is true*, that no practical bee-keeper can afford not to read it. The courage, enthusiasm, and inspiration alone will be worth more to him than the cost of the book, to say nothing of the more practical instructions. Many a man fails from a lack of these very useful qualities, and the perusal of ADVANCED BEE CULTURE will do much to help in this respect.

One more point: A dozen years ago I took up photography as a hobby, as a pastime. I have studied it just as you have studied bee-keeping. I have read journals and books on the subjects, attended the conventions, etc. I have lugged a large camera along with me all over the United States and Canada, and used it with loving care. ADVANCED BEE CULTURE contains the

Gems of this Collection

of all these years—a collection that is simply unapproachable in the line of apiculture.

The book is beautifully printed with clear, large type, on heavy enameled paper. It is bound in cloth of a bluish drab, and the front cover embellished with a green vine of clover, a

Bee of Gold

sipping nectar from the snowy-white blossoms of the clover. Taken all in all, it is a beautiful book.

If the advertising that I have done in the past has not convinced you that you need the book, then the fault is in the *advertising*; and, for this once, I have cut loose and said just what I think of the book—I may never do it again.

Price of the book, $1.20, or the REVIEW one year and the book for only $2.00.

Special Offer.

Just at present I am offering all of the back numbers of this year free to all who send $1.00 for 1907. In other words, you can get the Review for 1906 and 1907, and this book for only $2.00! I know of no way in which you can get so much helpful, practical, valuable apicultural information for so little money.

W. Z. HUTCHINSON, Flint, Mich.

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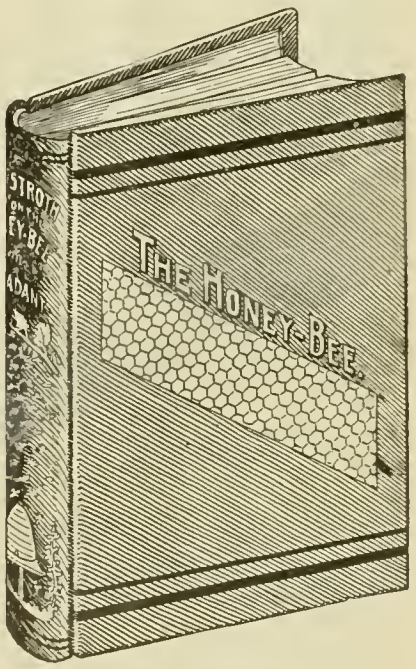
Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.



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This is a splendid chance to get a grand bee-book for a very little money or work.

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

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Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

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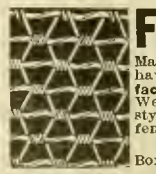
In Poultry business. Others do it. Why not you? Our big illustrated book, "Profitable Poultry," tells how to breed, hatch, feed, grow and market to make lots of money. Starts you on the road to success. Describes most wonderful Poultry Farm in the world—32 kinds of fowls. Gives lowest prices on fowls, eggs, Incubators, everything for Poultry. Mailed for 4 cents in postage. Berry's Poultry Farm, Box 72, Clarinda, Iowa.



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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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American Bee Journal

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C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Dec. 28—The demand for comb honey is only fair with market well supplied; market is almost bare of extracted, however, and the demand very good. We quote: Fancy white comb, 24-section cases, $3.25; No. 1, $3.00; Extracted, white, per pound, 7½@8c; amber, 7@7½c. Beeswax, per pound, 25 cents.
C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax, 30c.
C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8¼c; light amber, 6½@7c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Dec. 3—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c. HILDRETH & SEGELKEN

DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Dec. 7.—The honey market is in a healthy condition, particularly extracted honey, the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate the prices. We quote amber extracted honey in barrels at 6@7c, according to the quality. Fancy table honey in barrels and 60-lb. cans at 8@9c. The demand for comb honey has decreased, somewhat, owing to the season of the year when the sale of that article suffers. Our prices of fancy white comb honey, in a wholesale way, is 15@16c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS & NICHOLS CO.

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Cash for Beeswax
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Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.
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HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

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WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

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American Bee Journal

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We have originated and had made specially for our readers, a bronzed-metal Clock, called "**The Bee-Hive Clock.**" It is 10¼ inches wide at the base, 9¾ inches high, and deep enough at the base to stand firmly on a mantel or elsewhere. It is a beautiful piece of work, and would be both ornamental and very useful in any house, and particularly in a bee-keeper's home.

The Clock part itself is warranted for 3 years to keep good time. So it is no plaything, but a beautiful and needful article for everyday use.

Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

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Send us **5 New Subscribers** to the Weekly American Bee Journal for one year, at $1.00 each, and we will send you this beautiful "Bee-Hive Clock" **FREE** (excepting express charges). Or, send us **4 New Subscribers** (at $1.00 each) and 50 cents—$4.50 in all. Or, **3 New Subscribers** (at $1.00 each) and $1.00—$4.00 in all. Or, **2 New Subscribers** (at $1.00 each) and $1.50—$3.50 in all.

Only $2.50, f.o.b. Chicago, by Express.
Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

Address all orders to **GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.**

AMERICAN BEE JOURNAL

47th Year | CHICAGO, ILL., JAN. 17, 1907 | No. 3

APIARY OF FRED HOFFMAN, OF ASHTON, IOWA
(See page 46)

APIARY OF JOHN STEVENS, OF CHURCHILL, ENGLAND.

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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PRICES, postpaid: 3 cards for 10 cents (stamps or silver), or FREE with the American Bee Journal one year at $1.00; 10 for 25 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to

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Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
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G. P. Pilling & Son, Philadelphia, Pa.
Mention Bee Journal when writing.

Special Bargains

in dovetailed HIVES. Plain and Beeway SECTIONS. Hoffman BROOD-FRAMES. Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,
Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ‡ POLITICAL ‡ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, 50 cents for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

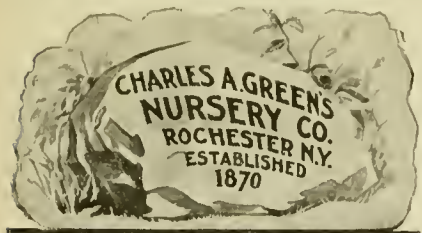
Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal



APPLE, PLUM & PEACH TREES
50 trees for $2.50

All are thrifty, well-rooted and true-to-name. Larger trees of apple, pear, peach and quince at "live and let live" prices.

Live-Forever Rose, 10c Each

Small fruit vines, plants, trees, ornamental shrubs our specialty. Asparagus roots and Poplars at a bargain. Our Charles A. Green has a national reputation for honest labeling, packing and grading. Apply by postal card for Green's Free Fruit Guide and Catalog; also a sample copy of Green's Big Fruit Magazine—all mailed free. Address,

GREEN'S NURSERY CO.,
Box 999, Rochester, N. Y.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.

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If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire and every twist is a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

"It is continuous advertising that impresses the public with the stability of a firm."

American Bee Journal Novelty Pocket-Knife Gold Fountain Pen

All for $3.00

(This cut is the full size of the Knife.)

Worker

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

Drone

SOLID GOLD FOUNTAIN PEN

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

⅔ size

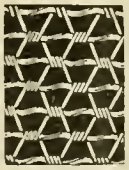
We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00. Address all orders to

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

MAKE GOOD MONEY

In Poultry business. Others do it. Why not you? Our big illustrated book, "Profitable Poultry," tells how to breed, hatch, feed, grow and market to make lots of money. Starts you on the road to success. Describes most wonderful Poultry Farm in the world—32 kinds of fowls. Gives lowest prices on fowls, eggs, Incubators, everything for Poultry. Mailed for 4 cents in postage. Berry's Poultry Farm, Box 72, Clarinda, Iowa.



FENCE *Strongest Made*

Made of **High Carbon** coiled wire. We have no **agents.** Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight.** Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

Mention Bee Journal when writing.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
334 Dearborn Street, CHICAGO, ILL.

American Bee Journal

Trade Notes. The A. I. Root Co., Medina, Ohio.

Photographic Competition

We are pleased to announce another series of prizes for the best photographs submitted to us, as described below, in two series, American and Foreign, under thelfollowing conditions:

FIRST.—The competition opens January 15th, and closes October 1st, 1907. All photographs intended for this competition must be in our hands by the last-named date.

SECOND.—Competition for these prizes is limited to bee-keepers or some member of the family. Entries may be made for as many different classes as may be desired.

THIRD.—A photograph entered in one class can not be entered in any other class.

FOURTH.—Each photograph should be marked on the back with the name and full address of the sender, and the class in which it is entered. This is important.

FIFTH.—In judging the photographs, the general appearance, neatness, etc., of the apiary, or exhibit, or yard, will be taken into consideration. Photos may be sent unmounted. We rather prefer them this way, and in a solio or reddish-brown if possible. However, send such as you can get most easily.

SIXTH.—With each of the photographs submitted we would like a brief statement of the conditions under which the apiary was photographed or honey produced, or similar information regarding the photograph. This should be limited to about one hundred words.

SEVENTH.—All photographs and correspondence regarding the same should be addressed to Advertising Department, GLEANINGS IN BEE CULTURE, Medina, Ohio.

EIGHTH.—We reserve the right to limit the number of awards or withhold any award if no photo worthy is entered in the class.

AMERICAN COMPETITION
(Including Canada and Mexico)
AND
FOREIGN COMPETITION

The following are the classes in which entries may be made:

CLASS A.—Photographs of any apiary in village, town, or city.

CLASS B.—View of an apiary not exceeding six hives in town or city.

CLASS C.—Apiary in town or country of not less than six hives or more than fifty hives.

CLASS D.—Apiary in town or country of fifty hives or more.

CLASS E.—Photograph of comb honey produced by a single colony of bees; not less than ten sections, and this preferably in plain sections.

CLASS F.—Photograph of a bee-keeper's home, showing some view of the apiary if possible. The apiary need not be prominent in the picture, however.

CLASS G.—Photographs of a crop of honey from any number of colonies, six or more.

CLASS H.—Photographs of any apiarian exhibit of bees, supplies, or honey taken at fairs or shows of any kind.

CLASS I.—Photographs of any work in the bee-yard, such as hiving swarms, extracting, or any other operations with the hive.

CLASS J—Photographs of any other subject relating to bee-keeping not classified above.

PRIZES

	Value, Postpaid
FIRST.—One leather-bound "A B C of Bee Culture," 1907 English edition, or cloth-bound French or German	$2.00
SECOND.—One-half leather "A B C of Bee Culture," 1907 English edition	1.75
THIRD.—One "How to Keep Bees" and any two Swarthmore books	1.50
FOURTH.—One full cloth-bound "A B C of Bee Culture," 1907 English edition	1.20
FIFTH.—One "How to Keep Bees," by Anna Botsford Comstock	1.10
SIXTH.—No. 1 bee-veil, all silk	.80
SEVENTH.—No. 2 bee-veil, silk face	.50
EIGHTH.—One illustrated book, "Bee Culture in Foreign Countries"	.50
NINTH.—One Bee Model, Queen	.50
TENTH.—One Bee Model, Drone	.50

Ten prizes are offered for each class: Ten for Class A, Class B, Class C, Class D, etc.—one hundred prizes for American contest, and one hundred prizes for the Foreign contest; two hundred in all if that number of entries are received, the prizes offered being identical for each class for the American competition and for the Foreign.

If the winner of any certain prize already has the prize offered, we will, on request from him, furnish a selection of other items from our catalogs, of equal value.

Danzenbaker Prizes

It is to be regretted that so many bee-keepers are satisfied to produce year after year a very ordinary grade of honey as regards its appearance, when by a little more care, and having more suitable fixtures, and by taking the honey from the hive at just the right time, a much larger percentage of "fancy," or "extra fancy" honey could be produced, which would sell at a much higher price. The experience of honey-merchants generally is that there is no difficulty in disposing of large stocks of fancy or extra fancy, even when the market is dull. It is the inferior grades that suffer most at these times. We believe, too, that bee-keepers would be very much better satisfied with their season's work if their best efforts were made to produce a really fine product. To increase further the interest in extra fancy honey, the following prizes are offered for honey produced in Danzenbaker hives during the year 1907, under the following conditions:

FIRST.—As above stated, the honey must be produced in a Danzenbaker hive, either the present style or any Danzenbaker hive that has been put out within the last few years. These hives may be had of any dealer in bee-keepers' supplies in any part of the country.

SECOND.—For Classes 1 and 2 we require a shipment of approximately the amount stated, to be made by the bee-keeper direct to us at Medina. After the prizes have been awarded the honey entered for competition in Class 1 or 2 will be held subject to the instructions of the producer. We will sell it at 5 percent commission, or we will ship it to any point direct by freight or express. There being good honey markets in our immediate vicinity, such as Columbus, Cincinnati, Cleveland, Buffalo, and Pittsburg, it can be disposed of without difficulty at good market prices, and the shipper will not have to lose a good market by shipping it here. Neither the honey awarded a prize nor that which obtained no prize is to be our property, but will be sold subject to the instructions of the producer who sends it to us. We are interested only in inspecting it to award the prizes.

THIRD.—For all honey submitted for prizes we must have a definite statement from the producer regarding the conditions under which it was produced, whether a light or heavy flow of honey, how the colony was handled, how many colonies in the yard, from what source produced, etc.

FOURTH.—For Classes 3, 4, and 5, we must, in addition to the above report, have the signature of two witnesses, certifying to the correctness of the report. If the party who sends us the report for the competition is well known to us we shall not require these witnesses. References may be given instead of the signature of witnesses if desired. All parties intending to compete for these prizes should send for blanks which we will furnish, on which the report may be made out.

FIFTH.—It will be noticed in the last three classes, three to five inclusive, that it is not at all necessary to send us the honey—all we require is a report.

SIXTH.—We reserve the right to limit the number of awards in each class, or to make no awards in a class if there are no satisfactory entries for the same.

SEVENTH.—No contestant will be awarded more than one prize in each class, but may make two entries if desired—one in Class 1 or 2, and another in Class 3, 4, or 5.

The classifications for the prizes are as follows:

CLASS 1.—For best shipment of 200 lbs. of comb honey in Danzenbaker sections.

CLASS 2.—For best case of comb honey in Danzenbaker sections.

CLASS 3.—For best report of yield from single colony in Danzenbaker hive.

CLASS 4.—For best report of yield from five colonies in Danzenbaker hives.

CLASS 5.—For best report of general results from use of Danzenbaker hive.

For each class there will be ten prizes as follows:

FIRST.—$10.00.
SECOND.—$7.00.
THIRD.—$5.00.
FOURTH.—$2.00.
FIFTH TO TENTH.—$1.00 each.

This is the time to decide to enter this competition. No matter where you live, whether in the United States or elsewhere, you can certainly find one class in which you can make an entry; and as there are ten prizes in each class, we believe that no one will be greatly disappointed in the results unless it is ourselves, and we hope that we shall not be, but see a large number of entries. Even if you fail to get a prize, you will doubtless have increased the value of your own product by your efforts to produce some big results or an extra quality of honey.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 17, 1907 | Vol. XLVII—No. 3

Ordering Government Publications

We have received the following relating to the ordering of publications issued by the Government at Washington, D. C.:

A mistaken idea seems to have gained currency among those making application for Government publications, namely: that the authors of publications should be addressed personally, whereas all requests for such publications as are distributed free by the Department of Agriculture should be addressed to the Honorable Secretary of Agriculture; or, in case of special publications, to the chief of the bureau under whose direction the publication was prepared. Those apicultural bulletins which may be distributed free can be obtained by addressing letters: *Bureau of Entomology*, adding the words *Apiculture* and also *United States Department of Agriculture*. Publications to which a price has been attached should be obtained directly from the Superintendent of Documents, Government Printing office, Washington, D. C.

FRANK BENTON.

Educating Consumers on Honey

We have often urged our readers to write something on honey and its value as a food, for their local newspapers. Quite a number have done so, and have sent us copies after publication. Dr. F. D. Clum, of Columbia Co., N. Y., has done something in this line, and wrote us as follows concerning it, under date of Jan. 4, 1907:

EDITOR YORK:—It may interest you to learn that the largest and most successful apiarist in this county is Mr. James McNeill. He owns nearly 500 colonies of bees, nearly 200 of which he has in an out-apiary on my land.

In supplying the local trade with honey it was found that the great majority of people knew so little about it that they raised "a great hue and cry" about the honey being impure, because it granulated from effects of cold. To counteract this, I wrote a few simple facts regarding honey, which the editor of our leading county paper gladly published, free of charge, in both his daily and weekly edition. I think if the bee-keepers throughout the United States would publish similar communications in the local papers, it would greatly increase the sale and use of honey.

I enclose herewith the article referred to.

Yours very truly, F. D. CLUM, M. D.

As what Dr. Clum has written is among the best productions of its kind that we have seen, we reproduce it here in full, so that all may have a clear idea of the kind of honey-information that should be placed before the people if we would have them use more honey. Here is what Dr. Clum wrote, and had published in the Hudson, N. Y., Gazette:

INTERESTING FACTS OF HONEY.

The production of honey in this county and State is on the increase, and under modern methods has developed into a large business, during the last few years, and yet the general public know but little more about honey than the fact that it is made by bees, and is good to eat. They think "honey is honey"—all just alike—but this is a mistake.

How many people know that honey has as many flavors as the flowers from which it comes? or that honey may be as colorless as water, or as dark as black molasses? Honey should never be kept in a cellar, and yet the average housekeeper is apt to keep it there. The majority of people call all liquid honey "strained honey," while there is no such thing on the market to-day. The old-time "strained honey" was obtained by crushing the comb, bees, pollen and honey together, then straining the mixture through a cheese-cloth. This wasteful, disagreeable method is not practised to-day by any up-to-date bee-keeper who produces honey for market. Like the old straw-skep, it has long since been abandoned.

The liquid honey on the market to-day is called "extracted honey." It is a much finer and better article than the strained honey of our grandfathers. Extracted honey is taken from the comb by centrifugal force without destroying or injuring the comb. Many people prefer to buy honey in the comb because it looks pretty, but the pure extracted honey is really the most wholesome and nutritious. The comb, when melted, is called beeswax, and it not only has no nutritious value as food, but is indigestible.

All liquid honey, if strictly pure, will sooner or later become cloudy, granulated and thickened, and if it becomes solid this is one of the best proofs of its purity; and yet, the great majority of the public are not aware of the fact, and think because the honey looks "sugary" that it is adulterated. It is a very serious matter to produce or sell adulterated honey, and those who condemn a man's honey as spurious, usually do not know what they are talking about; they are not familiar with honey.

Those who buy extracted honey in a candied or solidified state may rest assured that they are getting a strictly pure article. Sugar syrup or glucose, while it may thicken from effects of cold, will not become solid like pure honey.

Honey, both comb and extracted, should be kept in a dry room as near summer temperature as possible. The mercury should not fall below 65 degrees Fahr. if it is desired to keep the honey in perfect condition; but honey that is granulated and has become thick and solid from the effects of cold, can easily be made liquid again by placing the vessel containing it in warm water and slowly heating it over a fire. Some people heat and liquefy a small quantity of honey in this way whenever they desire to use it, and if care is taken that the water does not boil, the honey thus liquefied has the same delicate flavor as when first removed from the hive.

Certain flavors do not suit all tastes, and it is possible to find honey that has an unpleasant taste to certain people; and then, again, comb honey may acquire a disagreeable flavor by being kept in a damp, musty cellar, and be called spurious when strictly pure. The Government has three honey and bee inspectors in the State of New York, and if any one in this State purchases honey which he thinks impure, let him make a complaint, and if it is a just one, the producer and seller of the impure honey will find that under the new pure food law there are heavy penalties to pay, or imprisonment.

Many hundred years before sugar was known, honey was the chief sweet used by the people, and it would be greatly to the health of the present generation if honey could be restored to its former place as a common article of diet, as it is the most wholesome and delicious of all sweets, and contains the most delicate of all flavors—that of the flowers from which the nectar is taken.

F. D. CLUM, M. D.

Perhaps some may say, "O I can't write anything as good as that!" Well, then try to have Dr. Clum's article reprinted in your local newspaper. Start by saying, Dr. F. D.

American Bee Journal

Clum, one of New York State's physicians, writes us follows in the Hudson, N. Y., Gazette: Then let his article follow.

All bee-keepers need to "get busy" in this way, and help not only themselves, but those who would be benefited in their health by eating honey as a daily food.

Starting New Bee-Papers

Occasionally we have remarked in these columns that we thought it was very unwise to start any more new bee-papers. At the same time we could easily see that some people imagined we spoke because of a jealous feeling on our part—as if the American Bee Journal feared any more competition. The fact was, *we* knew exactly what we were talking about, having had a good many years' experience in the bee-paper publishing line, and the "other fellows" were talking or thinking "through their hats."

To show that we are not alone in our views concerning this matter, we quote from an editorial in the December Bee-Keepers' Review, written by W. Z. Hutchinson, who also knows what he is saying when he puts himself on record in the following:

The plain fact is that the field of apicultural journalism is now pretty well covered, and a new journal, to succeed, should need to be *different* from the others, have an editor of most decided ability, and "barrels" of money. It is true I started the Review 20 years ago, with neither the money nor the experience, and made a success of it; but there were a number of peculiar factors in the case that I won't take space to discuss. I'll say this, however, if I should sell the Review now for $5000, I would not, with that amount of capital, and my 20 years of experience, think of such a thing as starting another journal....The same amount of money, time and energy, put into straight honey-production, would bring a much larger profit.

The occasion of the above utterance by Mr. Hutchinson, was the announcement that the Rural Bee-Keeper (published for about 2 years by W. H. Putnam, of Wisconsin) had recently been transferred to the American Bee-Keeper.

Bee-Keeping in Germany and Spain.—C. B. Chevalier, of Maryland, sends the following clipping taken from the Philadelphia Press for Nov. 7, 1906:

Germany has 1,910,000 colonies of bees, which furnish 20,000 tons of honey in a year; while Spain comes second as a producer of honey among European countries, with 1,690,000 colonies and 19,000 tons of honey.

A Misapprehension.—We find the following in a recent issue of the American Bee-Keeper:

"The editor of the American Bee Journal refers to the American Bee-Keeper as 'a somewhat obscure publication!'"

No such reference was made in these columns, Mr. Hill. The reference was to a document of the United States House of Representatives, which is so obscure that very few probably know of its existence. It is to be hoped that the American Bee-Keeper has a much larger circulation, and that it is more carefully read than will be the document referred to.

The Minnesota Bee-Keepers, it seems, divided into two organizations at their meeting early in December, 1906. We have received the following concerning the matter:

The inevitable has happened, and the Minnesota Bee-Keepers' Association, which has had an existence for 18 years, has been divided, and the old members have formed a new society, which will be called "The Minnesota State Bee-Keepers' Society."

The old constitution, under which we have been working for years, did not take into account the ambitions of individuals, and therefore, did not guard against any such who wished to dominate the Association.

At the opening of our meeting, Dec. 5, an element which for 3 years has been trying to turn the Association into commercial channels, got control of the meeting, and a resolution was then passed to admit proxy voting, and the deed was done. The old officers and members withdrew in a body, and formed a new society; and while we do not have the old name, we do have most of the old members, and we will have peace in the future.

The Minnesota State Bee-Keepers' Society was organized Dec. 6, 1906. It is affiliated with the Minnesota State Horticultural Association, and voted to join the National Bee-Keepers' Association in a body. Its objects are the promotion of scientific bee-keeping and such legislation as may be of benefit to the bee-keepers of Minnesota. It has 30 charter members, and every prospect of building up into a strong and useful society.

The officers elected for the coming year are: L. D. Leonard, President; Scott LaMont, 1st Vice-President; J. M. Doudna, 2d Vice-President; Rev. Chas D. Blaker, Minneapolis, Sta. F, Secretary; Mrs. Helen G. Acklin, Rev. J. Kimball, and J. E. Stryker, Executive Committee; and Mrs. W. S. Wingate, Treasurer. L. D. Leonard.

The Apiary of John Stevens, of England, is shown on the first page this week. It was taken from a souvenir postal card. When sending it, Dec. 3, 1906, Mr. Stevens wrote as follows:

I am sending a photograph of my home apiary, for many recent improvements in which I have to thank the American Bee Journal.

The past season was very fair in this locality, my own "take" being the best I have had in the last 6 or 7 years.

John Stevens.

Von Hruschka and the Honey-Extractor are thus mentioned in a "Stray Straw" in Gleanings in Bee Culture:

Major von Hruschka, the inventor of the honey-extractor, born in Moravia, was an officer of the Austrian army at Legnano, Italy. His leisure was occupied with bee-keeping, and one day he sent his little boy to the house with a comb of honey on a plate in a hand-basket. The boy whirled it about to get rid of robber-bees. The lower side of the comb was emptied, and the honey-extractor was born. After the peace of 1866, von Hruschka left the army, lived a while at Dolo, and then at Venice, where he ran a big hotel. This swamped him financially, and in May, 1888, he died a poor man, forgotten by most bee-keepers.

This little tribute is to awaken in the minds of the younger members of the fraternity a feeling of warm regard for one to whom we owe so much.

Mr. J. L. Patterson, one of the "Bee Journal Family," had one of the most interesting exhibits at the Fair, held in Augusta, Ga., the past fall. He is one of the most enthusiastic and up-to-date apiarists of the Savannah valley, and had in his exhibits some very fine honey in the comb, as well as extracted honey and beeswax. He was awarded two first prizes for these exhibits, which carried with them a purse of $20. The honey was of the best and finest ever seen in that locality, and was the occasion for much favorable comment during the week. So a local newspaper reported.

Mr. J. T. Hillery, of Columbus, Ohio, when renewing his subscription to the American Bee Journal for 1907, enclosed these two stanzas:

Enclosed you will find a dollar—
My renewal for "A. B. J.;"
"I can not bear to lose" it,
For it cheers the lonely way.

And when we have a poor season
Like Nineteen-Hundred-and-Six,
The "A. B. J." encourages us
To press on and put in "best licks."

J. T. Hillery.

The Apiary of Fred Hoffman.—When sending the photograph of his apiary, which is shown on the first page, Mr. Hoffman wrote thus:

I enclose a snapshot of a corner of my "bee-orchard." This is my third year, and I have 20 colonies. We have a good country for bees, as there is a great deal of white clover. The hardest part is to winter bees here. I had them up-stairs one winter, and also have a small bee-house outside. I could not see any difference in their wintering.

I have had many useful hints from the American Bee Journal. Fred Hoffman.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

San Antonio Photograph.—We have some of the San Antonio convention photographs, showing over 100 of those present at the National convention. We are sending them out in mailing-tubes at 60 cents each, postpaid. Send orders to the office of the American Bee Journal.

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Drones' Flight—Building Drone-Cells

BY DR. C. C. MILLER.

When a man puts up as good a fight as does the Afterthinker on page 950 (1906), it's hard for me to repress a feeling of sympathy, and certainly there is more or less an inclination to capitulate to the enemy. But, as the enemy says, "cause a pretty important one," and I musn't weakly give way to sentiment. So here's at you again, O mine enemy, the Afterthinker!

"Neither swiftness nor numbers avail; and the queen does not lead off with any great swiftness." I think that statement has the merit of originality. So far as I remember, others have held the opposite view. But if you know you're right and they are wrong, Mr. Hasty, your word goes a long ways with me. Only I'd kind of like to know how you know.

"The drone that wins is *the one that gets ready first.*" That's a new one, too. Not so very unlikely, though; for the one that's first ready is likely to start first. Let us accept, then, that speed doesn't count, nor numbers; only being ready first. Remains for you to satisfy the court, Mr. Hasty, that an only son will be ready sooner than any one of a large family of brothers. "Among plains-cattle the bull that can conquer in fight wins." Sure; but then you know that if that same bull be stall-fed he'll not conquer in fight. Doesn't pampering tend to logginess rather than promptness in readiness?

Without stopping to inquire how the answer might affect either or both sides, it might not be irrelevant right here to inquire whether in reality there is any shortage of rations on account of the large number of male members in the family; in other words, at the time when drones are likely to be in demand, have you any proof, Mr. Hasty, that there is not ready for each and every drone all and more than he is willing to eat?

"Now, Dr. Miller and his nice little square of comb," etc. Who said anything about "square" of comb? Did you never hear of patching comb by cutting out circular pieces with a cake-cutter? Pray, where, in that case, would be your corners for your drone-cells, Mr. Hasty? But I'll be on the square, and admit that I've put in more square than round patches; indeed, I've put in a big lot of the square ones. Then you ask: "How on earth is he going to prevent one drone-cell on each corner of his sliced work?" and before I have time to gather breath to tell how to prevent it, you run right on with 4 drone-cells on each side and get a Gideon's band of 320 in a yard. Cool of you, isn't it? What made you stop with the corners? Why didn't you, while you were at it, just as well assume that there would be a whole row of drone-cells clear around the patch?

Before I answer your question as to prevention, suppose I ask *you* a few questions: Did you ever put in a square patch of worker-comb in place of drone-comb? And did the bees decorate the corners with 8 drone-cells? Were there 4? Did you ever see one? Did you ever hear of one?

While the stenographer is taking down your answer to those questions, I'll answer your question as to what I did to prevent drone-cells when patching. I never did anything. I just put in the patches, and the bees did the rest. And although I put in lots of patches, I do not remember to have seen one single drone-cell as corner-work. And I feel pretty sure that if there had been one I should have noticed it; and just as sure that I would have remembered it. A sealed drone-cell among worker-cells is somewhat conspicuous. Now, it would be just like you to ask why the bees didn't build any drone-cells in those corners; but I'm not obliged to answer that question. Maybe they didn't have room; maybe they're not in the habit of putting in a single odd cell; I don't know; the important thing is that they don't—at least not "in this locality."

You say, Mr. Hasty: "Slicing patches of drone-cells is not very difficult; but getting all the scattered single ones is desperately difficult * * * *. The work is disagreeable as well as long." That makes me wish very much I could look through some of your hives: I'm sure you'd allow me for that length of time if I came under a flag of truce. For it would be something in the line of a curiosity for me to see single drone-cells scattered about through a hive. I can stretch my imagination far enough to suppose that a colony with a mania for producing drones, if it had all its combs filled with worker-bees, might, in its desperation, try to get a cell or two wherever there was a chance; but I never yet saw a case in which there was any such scattering. You know that G. M. Doolittle advises an inch or two square of drone-comb left in one comb, saying, if I remember rightly, that that will satisfy the bees so they will build no more. And then if you come and look through my hives—I'll let you come without the flag of truce—I'll show you comb after comb, nearly all of my combs, where you'll not find a cell, even with your "specs" on, But some combs have patches in spite of me: holes have in some way got in, and have been filled with drone-comb, and I've been too negligent to patch them. But a patch or two in each hive is all you're likely to find, with none in the other combs.

I've turned somersaults in my lifetime before this, and it is among the possibilities that the time may come when instead of discouraging drones of poor stock I shall believe in allowing a lot of drones in all but best colonies, and limiting the number in the best; but I'll wait to hear from you again, Mr. Hasty, before embracing that doctrine.

Fumigating Foul-Broody Combs with Formaldehyde

BY DAVID J. WEST.

On page 884 (1906), the question was asked, "Has fumigation of brood-combs exposed in a tight room ever been tried on foul-broody combs with formaldehyde?" One answer was "Yes, and as a rule not successful." Another answer was, "It will never be a success in an apiary." We have used formaldehyde on foul-broody combs with good success, and have cured many sets of combs of the disease, and, without doubt, now have a hundred colonies on combs that were once affected with foul or black brood.

We have several ways of treating foul brood, but when we wish to use the combs again, we shake the bees into a clean hive on starters for 3 to 5 days, then take out the starters and put in foundation, which will usually free the bees of the disease.

To free the combs of the disease, we stack them 3 or 4 hives high, on a colony that is slightly diseased—so as not to carry the disease farther—with a queen-excluder on to keep the queen in her own hive, and use the combs that season for extracting combs. This saves the good brood, and makes a strong colony, which will clean the combs of the bad brood and fill them with honey. The combs are extracted as often as needed, and, after the harvest are left to be cleaned out by the bees.

Then we place the combs in an air-tight box, which holds about 100 combs, and fumigate them from 20 to 40 minutes with water and formaldehyde mixed in equal parts. About one quart of formaldehyde and water is placed in a galvanized kerosene-can, and the gas or steam is led through the spout and a small rubber hose into the box of combs. The kerosene-can is heated by a 2-wick oil-stove, which sends out a lot of steam, and two such arrangements are used at the same time in fumigating the one box of combs. After fumigating the box of combs, the box is left air-tight for about 24 hours. Then the combs are taken out and well aired, and put away to use the next season to catch swarms on, or to use for anything we wish.

This way does not always prove a success, but usually does if care enough is taken to give the combs a good fumigating, and the combs are not too *awfully* bad with disease.

I ought to know something about doctoring foul brood, as we have had foul brood in our county for 8 years. And

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my father is a New York State Inspector of bee-diseases, etc. And we have 532 colonies of bees, fall count, which gave us over 10 tons of comb honey this year, which went to market in October.

Middleburg, N. Y.

Native Bee-Keeping in East Africa

BY F. GREINER.

Saeuberlich, a missionary, who has been among the negro people of Africa for 18 years, tells in "Die Biene" what he has observed during these years in regard to bee-keeping. The following is an extract:

The African bee is very light in color and slightly smaller than the Italian, and the brown or German bee. As to the stinging propensity, it is about on a par with the latter.

The kind of apiculture I am about to describe is probably nearly as old as the hills. The son learns from the father, and nothing new is added. As in other parts of the world, hollow trees are favorite places for bees to build their combs. The trees being large, and the timber hard, it required much time and expenditure of labor to obtain the sweet, particularly as the negro's tools are very inferior, consisting only of a small ax tied to the helve with a piece of rhinoceros skin.

Although the negro does not economize in time, yet he must have come to the conclusion that it would be an advantage to furnish the bees such hives as would make it easier for him to secure his harvest. Advanced apiculture, therefore, consists in putting out decoy hives, and robbing them when they have become inhabited and are filled.

The manner of making hives is very laborious and the process slow. A saw being unknown, all the cutting is done with the aforesaid ax, and another tool similar to a carpenter's adz, but smaller. The latter is used in hollowing out log-gums, and is made in similar fashion as the ax, tied to the handle by means of rhinoceros or hippopotamus skin.

Soft-wood timbers are naturally preferred by the natives for hive-purposes. The logs are cut in 3-foot lengths, then peeled, and eventually excavated or hollowed out. It requires several days' work to hollow out one hive. At first this work is done roughly, and when in this condition the log-gums are transported to the village. Here they are finished up and made very smooth, inside as well as outside. The cover and bottom are fastened on with wooden pins. It is a most tedious process to work the "boards" out of logs, with the tools described.

A hole about 2 inches square is cut into each hive for an entrance near the center of it, and then it is ready to be put in some tree, often many miles from home. Each hive bears the mark of the owner, and this may be seen from a distance. It is usually recognized by the natives as evidences of ownership. Some of these "bee-keepers" own as many as 200 such hives, of which, however, seldom more than half are occupied by bees.

Two methods are practised to fasten the hives up in the trees. Some prefer to hang them up by means of ropes; others select a favorable spot on two stout limbs, then pin the hive to the tree.

In the putting up of these hives care is taken so to fasten them that neither wind nor quadruped animals can upset them. A certain four-footed animal, the size of a ground-hog, or larger, is very eager for honey and wax, and is apt to visit these hives. As expert climbers it is an easy matter to reach them. They will then upset them if they can, and help themselves to the broken comb, then on the ground. The natives seldom place more than 2 or 3 hives in one tree, generally only one. This work is done in September or October.

Towards the end of October the rainy season commences, and soon the ground is covered with grasses and flowers. The honey season is at hand. Usually the rain occurs at night. There is neither cold nor winds, and the bees work 12 hours uninterruptedly, day after day. After the beginning of this honey season we can see swarms of bees going over our heads every day. Occasionally the attempt is made to hive a swarm, but only about one in 20 will stay. It is difficult to say why this is so.

With the beginning of January the real honey harvest commences; it lasts till July, and immense quantities of honey are stored by the bees. The natives never "tackle" a bee-hive till after sun-down. A bee-hat is unknown among them; it would be useless, anyway, as the face is only a very small part of the vulnerable portion of their bodies. When robbing the hives a torch-light is used, and a large portion of the bees are naturally burned. In consequence many a colony is thus totally ruined. The majority of hives are lowered to the ground by means of ropes before robbing them, and put up again afterward.

When the more distant hives are to be (mal) treated, caravans of from 10 to 20 men and women start out and are many days on their way. The combs are mashed down and put up in barrels and bags, consequently the honey contains many impurities, dead bees, etc. The barrels are of wood, covered and bottomed with buffalo skin. The bags are made of goat-skins, which have seen long use as bedding previously. Receptacles for honey are never washed. It would be contrary to the common uses.

Much of the honey is made up into wine, of which the native is very fond. The men who climb the trees to obtain the honey from the hives are often well under the influence of this honey-wine, when doing the work, and it is no rare occurrence that some of them, on this account, have serious accidents happen to them by way of falling, breaking their limbs, etc.—Information from Deutsche Bienenzucht.

Best Size of Honey-Sections

BY R. E. MERRILL.

I have read with great pleasure the articles by Mr. T. K. Massie, page 783 (1906) and L. V. Ricketts on page 8 (1907), on the subject of best size for honey-sections. I would like to see a sample of a section for comb honey that will actually hold 2 pounds, with separator or fence, but would prefer one plain, for, from the experience I have had with sections, I prefer the former. The fence separators cost more than the slotted wood, and as Mr. Massie says, "Some of them are very flimsily made and do not last long." However, it is rather difficult to say which section I would prefer, for we have always used the 2-bee-way sections, and I have considered the matter very much.

I have concluded that a comb thick enough and large enough to weigh 2 pounds instead of one pound would be much better, either in the plain or bee-way section. All considered, I think it would be the best size of honey-section, and as coming as near the average as can be. Instead of 16 ounces, have 32 ounces as near the average as possible, although it is rather difficult for me or any bee-keepers in this country or any other country to select a section, (or a weight for a section), to be the exact number of ounces the same all the way through a crop. Of course, it would be different, if we bee-keepers could govern so as to make things suit us, but as we can not, and haven't the power to confine the bees to a certain size section, we will have to be satisfied fully with what they do for us.

The sections we are now using are the 4¼x4¼x1⅞, bee-way sections, and weigh an average of only 14 2-3 ounces when filled as stated. Now the question is, Would it not be better for both the producer and the consumer, if bee-keepers in general would adopt a section which, when filled as mentioned, would average 32 ounces, or 2 pounds each, or 1,000 sections to weigh a ton, or a very few pounds more or less, instead of being 150 or 250 pounds over. Short weight is not an advantage to the bee-keeper with the sections now in general use, or the sections we are using, as above mentioned. We have to give about 120 sections for 100 pounds of honey by weight. The question is, Would it be best to make such a change? and if best, then what size of section should we adopt?

Having very carefully considered the matter from my standpoint, I have come to the conclusion that there is no better size of sections than one that would hold as nearly 2 pounds as possible, or 1 ounce over. For me, I would think it would be very advisable, less work and less expense to the bee-keeper in general, if we could adopt a section of this kind. Of course we would all have to make some changes in our supply line, such as supers and shipping-cases, but, as far as I am concerned, I think I would save big money in the end. As for supers, I suppose they would have to be a little higher, hold less sections, contain more honey, or double the amount of honey; and we would have to change our shipping-cases to fit the new style of section, or a section, when fully completed, weighing 2 pounds.

I think all bee-keepers should consider the matter as to the expense of producing comb honey in 2-pound sections, instead of 1-pound.

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Bee-Stories—Report for 1906

BY WM. STOLLEY.

I send a clipping from a St. Louis daily paper, and the translation into English also. Here it is:

BEES IN A FUNERAL PROCESSION.

Des Moines, Iowa, Nov. 13.—Bees at Wall Lake, Iowa, have shown that they are capable of being attached to their keeper, when Oliver J. Seer died, in a very remarkable way. Seer was a bee-keeper and habitually worked among his bees with bare hands and unprotected face. His bees followed him wherever he went on his premises and into his workshop, without attempting to sting him. In winter, when winter stores gave out, Seer fed them with sugar syrup and rye-meal, and covered them with woolen blankets to keep them warm. On the day when Seer was buried, his bees swarmed about and around the hearse and thousands of them followed the hearse to the graveyard. Several colonies swarmed out of their hives and were found on trees in the graveyard near the grave of Seer, their former owner.—*Westliche Post.*

Now, what next? Here it is:

The foregoing seems hardly to be taken as truth, but I can pen another story about my own bees, that is—every word of it—as true *as the above,* and I think, proves beyond a reasonable doubt, that bees, even if they are not of the superior Red Clover "strain" are possessed of not only keen discrimination, but they morally entertain lofty notions, and by their actions prove that they hate liars.

Among the many people who visit my place, and quite often take a look at my well-kept apiary in the summer season, it sometimes happens that a newspaper reporter is among these visitors. And strange as it seems to be, my bees seem to know *at once* when one of them is about. Yes, it is a joy to see the bees go for these fellows.

We know that bees are prompted a good deal in their action by their sense of smell, and that explains probably that they recognize the reporter at once as soon as he has entered the bee-yard. I am somewhat inclined to think that it is the *liar's smell* that enables the bees to hit the right man. My bees at once swarm about the head and right hand of a reporter, and I have seen one of these chaps with a light, sandy mustache, where the bees covered it in a big cluster so that it appeared as a big black Russian beard. The bees were evidently all scrambling for a chance to put their stingers into that fellow's tongue. His right hand was just bristling with stingers, and for two weeks he could not write and report absolute nonsense to his newspaper; but after he got over it, so I learned, he went on lying as usual.

REPORT FOR THE SEASON OF 1906.

When my report reaches you in Chicago, I hope that you, Mr. Editor, have returned to your sanctum all right, with sound limbs, invigorated and refreshed in spirit, and that you and your bee-keeping traveling-companions, have enjoyed your trip South, relished the various Mexican spicy dishes, and were prudent enough to avoid drinking the "cistern waters" to appease your thirst, naturally created by these highly-seasoned meals. I refrain from suggesting other drinks instead as very wholesome, for fear that that might hurt my reputation, but I am sure that I know something more safe and palatable to take. However, if you did drink cistern water, while down in Texas, I hope you escaped carrying home malaria fever and tape-worms. I am very well acquainted with Southern life, and I am free to say, "I like it."

I very much regret that unavoidable circumstances prevented my going, as much as I would have liked to be with you and participate. Well, soon "the Old Reliable" will divulge, I suppose, and tell us about all that was going on down there in San Antonio, and, no doubt, it will be interesting reading for us who had to stay at home. Many will enjoy reading it when zero weather rules supreme, and the snow-storms sweep over this Northern section of our great country.

My report for the last passed season of 1906 will be short and to the point. After selling 5 colonies for $40 last spring, I had but 27 colonies left. These I increased by the nucleus plan to 42 fine colonies, rearing at the same time 31 first-class young queens.

I took 2710 pounds of honey, of which 235 pounds were in sections from 3 colonies. The rest was all extracted. My best colony gave me 153 pounds of extracted surplus, and the queen of this colony was hatched June 10, 1902. I do believe in *"long-lived stock,"* and I *never* kill a "real good queen" as long as she fills her hive with bees, from early spring and late into fall. I would much rather have a queenless colony in the spring, once in a while, than to make a rule to kill all queens when they are but 2 or 3 years old. My queens must show decline and weakness, *i. e.,* approaching barrenness, before I pinch their heads off.

I also got 42 pounds of fine bright-colored wax from cappings.

We had but 20 inches of rain the past season, while we had all of 40 inches in 1905.

Last spring (1906) I bought 25 pounds of what was to be yellow sweet clover seed, and sowed it on March 31. The seed grew well, and I had the very unexpected pleasure to see it begin to bloom on June 8, only 69 or 70 days after I scattered the seed. Soon all was a mass of yellow bloom, but—not a single bee ever visited this strange "yellow sweet clover bloom." According to what I knew of the yellow variety of sweet clover, it would *not* bloom the first year, but would, like Melilotus alba (white sweet clover), bloom the second year and then die, root and branch.

I have had some correspondence with my highly-respected lady friend, Mrs. A. L. Amos, who is known to have grown yellow sweet clover for years, and this lady wrote to me: "Seed of sweet clover sown in March *never* blooms until the following season, and then not so early as that bloomed for you." Mrs. Amos very kindly sent me quite a package of the genuine sweet clover seed, which I have sown this day, but I do not expect any bloom of it until the middle of the month of June, 1908. I suppose that the firm from whom I got seed had been imposed upon by some one, who sold this seed to them, and passed it off as "yellow sweet clover seed," and I hope that they will look the matter up.

The seed sent me most certainly was not yellow sweet clover seed, and since bees seem not to take to it *at all,* and the plants appear to be dead now, the $3.05 that the seed cost me, is a dead loss, unless it is made good to me. I never saw any kind of seed grow as readily, and bloom so willingly and profusely, and the plant, after blooming, die so speedily, as this new-fangled "yellow sweet clover seed." It looks and smells all right, but, after all, it is not all right.

Certain Red Clover queens are reported as a "very extraordinary, superior strain of bees." Now, if there is also a strain of "Yellow Sweet Clover Queens" whose workers understand how to get nectar out of this new-fangled yellow sweet clover, I would like to get a queen of that very remarkable strain, provided, however, such a queen is guaranteed to produce worker-bees that will store honey obtained from this new-fangled yellow sweet clover, and will not cost more than $100 for one queen!

I wonder if we ever will find out what kind of stuff that yellow sweet clover seed was, anyhow.

Grand Island, Neb., Nov. 15, 1906.

Hive-Lifting Devices—Super-Protection

BY GRANT STANLEY.

Quite a considerable space in the September 1st issue of Gleanings in Bee-Culture is devoted to hive-lifting devices, of which several illustrations are presented. The bee-industry has grown to such proportions that an invention of this kind is a necessity in the apiary. It is certainly hard work to lift 3 or 4 partly filled supers of honey, and place them on the ground, in order to examine the brood-chamber, and if many colonies are to be thus gone over the work becomes burdensome. It matters little if we can do this kind of work or not; if we can have an invention that will do it so much easier it surely enables us to do more work, and in business of every description men are endeavoring to invent methods by which the maximum result can be obtained with a minimum of labor.

But while we are thinking about hive-lifting devices, we should have one possessing as many practical features as possible. We not only want an invention to be used in hive-lifting and removing supers, but it should be so constructed that the supers of honey can be wheeled right to the honey-house when removed from the hives, and empty supers wheeled out. We also need this invention in wheeling our bees to the cellar in wintering, and to wheel them out again in the spring. If for any reason the bee-keeper desires to move colonies from one part of the apiary to the

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other, placing nuclei in various parts of the apiary, wheeling out winter-cases in preparing bees for wintering on the summer stands, and wheeling them away again in spring, or where the bee-keeper depends upon natural swarming for his increase, and hives the swarms where they cluster, the swarms can then be wheeled to the stands prepared in advance and placed on them with very little labor.

The wheels should be sufficiently large so that it will run fairly easy with a number of heavy supers of honey, and should be wide enough so that it will not upset if the ground is not perfectly level. Whether the bee-keeper uses such a device or not, it will be found a great convenience in many instances to have the apiary graded.

Better Super-Protection.

In one feature, in comb-honey production, at least, it can be said locality plays no part, as I believe it will be found in all localities, and that is, the rows of center sections in the super will be sealed over much sooner than the two outside rows. In fact, in many instances, it is a hard matter to get the bees to seal over these outside rows, and as a result of this kind of experience for a number of years, I have spent considerable thought in trying to find the cause, and at the same time solve a way to prevent it.

Here is another thing: When there are 2 or 3 supers of sections on the hive at the same time in course of completion, the outside rows in the lower supers would be sealed over as well as those in the center. Now why is this? In removing a super of filled sections the past season by the use of a bee-escape board, I let this board remain on top of the super under the one removed until the next examination, and, though this was only a few days later, to my surprise I also found this super all filled and sealed over ready to come off, and even the outside rows being sealed. I believe this was due, largely, to the bees sealing this board down solid, barring out the light and currents of air, as no other colonies made such rapid gains at storing. I am of the opinion the reason bees will seal the outside rows in the under supers, and not do it on top, or under the roof, is because it is further away from the light and currents of cool night air.

It should be remembered that bees can gather and store honey when it is too cool to work at comb-building or sealing, and for this reason (for I believe this is the chief cause), we should provide much better protection to the top of the hive in order to retain the warmth. There is entirely too much warm air going out, and cool air coming in, and as most comb-building is done during the night, this is also when the supers are the coolest if no protection is provided. For this very reason many bee-keepers use a telescope cover, as by the use of a deep cover of this kind the heat can not escape nearly so rapidly. During the storing season is also when brood-rearing is the heaviest, and on cool nights the bees will leave the supers and go down below in order to prevent a possible loss to the brood, if the matter of warmth has not been attended to.

I believe we will secure better results by giving much better super-protection during the honey harvest, than by ventilating at the top of the hive. The entrance is the proper place to ventilate. It must be a faulty hive that must be ventilated at the top in our Northern latitudes.

Nisbet, Pa.

Conducted by Emma M. Wilson, Marengo, Ill.

Keeping Bees and Poultry

Dear Miss Wilson:—I wonder if the sisters all want to "talk back" every week when the American Bee Journal arrives, as much as does the "Mistress of Clovernook." Also, if they promise themselves that they will, and then—don't.

About every week since you "called me down" on my emergency-cell business written for Poultry Husbandry, I've tried to find the leisure to "have it out with you;" but, alas, by now all the brilliant things I have been concocting and treasuring up to rout you with completely, would at this late hour prove but flat, uninteresting stuff to read. So Father Time draws the sting and dulls the venom.

Really, though, it is very hard for amateurs to write correctly on bees; to express exactly so as to convey what they mean to our readers.

I've been tasked with a lack of interest in my bees as compared with my poultry, because I so seldom write concerning this very important branch of Clovernook. I tell them that I'm "scart" to; that bee men and women are very quick to "catch on" to our inaccuracy and bring us up standing, while I can reel off miles of poultry-lore in blissful security. It seems to make no difference what I or anyone else says—*all* is silently accepted. Those who know may smile, but do not correct the error, and those who don't know, will, ultimately, at a costly price.

That is one reason why I'm especially fond and proud of the bee-keeping fraternity. There is a largeness of scope and a scientific pride that is above mere mercenary consideration, and a broad truthfulness is demanded and exacted.

Now after all this bouquet throwing, let us have another whack at "Bees and Poultry," as discussed in our own corner on Dec. 6, 1906.

I'm not so sure as I was then, or 4 years ago, that the two industries work well together, and can be conducted so that the bees do not suffer. At that time, I was sure that certain persons who advocated bees as a specialty were wrong. It now seems to me that while a limited number of fowls and of colonies work all right, as a side-issue—for pin-money—where a living is to be made from the two, it is hard to give the bees a fair show. And this for the reason that poultry is so clamorous for attention, and the neglect shows up so quickly and fatally in results, and the routine of care so constant and every day and three times a day (the bee-work being sandwiched in between whiles). It is quite likely on the days favorable for opening up the hives, that some imperative demand of the fowls must be met. So time slips by, and when our honey crop is in, we wonder why it is so light, and are chagrined at the inroads made by moths, and at other mischief which shows up.

It works somewhat after the fashion of a good and a bad child. The bad one absorbs three times the care of the good one, and the needs of the good one and its rights are too often sacrificed. I don't think any one can exaggerate the "cursedness' that there is in a chicken, nor the arduousness of the work entailed in caring for them under certain conditions, nor the slimness of the return for labor and money expended. On the other hand, where "chicken nature" is intelligently studied, the occupation is fairly remunerative, and fairly easy, and fairly pleasant. But as compared with bees, it is not in it! I think Sister Williams hits the nail on the head when she says, "If I should do the work that is most agreeable, I would take bees, every time, and believe they can be made to pay quite as well, if not better than chickens."

My experience is that, given the right locality and conditions for pasturage, and the proper care, a good living can be made with bees alone, providing the local market is not hurt or glutted by precipitating the crop on it at once, and by inferior grade of honey.

I have run bees and poultry for 12 years, and not a single season has drawn to its close but I've felt guilty of neglect to my bees, and have promised myself that it was the last time. And I've tried to plan the work so as to do justice to them, but have never succeeded. The past fall I decided to give up the White Wyandotte branch of Clovernook's business, in favor of the bees, and have farmed out 22 of our White Holland turkeys; so that next

year we have practically only ducks and bees to care for, in live stock, and the fruit and writing. So again I feel hopeful of unhurried, happy hours with my bees next year. We have recently not had nearly so large a crop of honey as in seasons past. I think that the young apple-trees have grown so as to shade our bee-yard too much, and that the felling of the basswoods and other varieties in our neighborhood, tend to lighten the crop. Also that perhaps our yard needs requeening. It may be "run down," as they are native bees with a cross of Italians about 20 years ago.

I know that 4 miles from us bees do fine. There is a splendid range of sweet clover and a large field of alfalfa and grain and buckwheat. The small apiaries scattered through that section do well. They run for comb honey and produce more pounds of it per colony than do mine in extracted. They are the native bees, are never requeened, and are given very little attention. This is a new experience for Clovernook, as, until recently, we produced away ahead the heaviest crops af any apiary in northern New York, and near-by apiaries in Canada. We usually run some 80 colonies, but this year they have dwindled to 58. From these we produced only about 500 pounds of white and 800 pounds of dark honey. From the same number of colonies, or a half-dozen more, in former times, we harvested between 4 and 5 tons With so nice an outfit as Clovernook's, we can not afford to lose our record and our good income, and must get to work in the spring, and bring our yard up to its former high standard.

I will take this opportunity to wish one and all—sisters and brothers—a Happy New Year, and to hope that those of us who have had a good 1906 will succeed in having a still better 1907; and that our misfortunes may hold for us "a precious jewel" in experience, by which we may mount *next year* into the sunshine of prosperity.

FRANCES E. WHEELER.

Clinton Co., N. Y., Dec. 12, 1906.

It comes as a sort of disappointment that the thief, Procrastination, should have prevented you from routing completely the enemy, for one can fancy that it would be rather an agreeable sensation to be routed by so pleasant a router. That's one of the nice things about bee-keepers—however fierce the combat over this or that plan or principle, the combatants become only the closer friends.

It is perhaps well that you did not tell us in advance that there was any question whether bees and White Wyandottes could both hold the field, for the sisters would have been in unpleasant suspense lest the larger birds should win the day.

It is doubtful that the shade of the apple-trees lessens your crops. Loss of basswood may, and very likely fresh blood would be a good thing. But aside from all that there are variations in the seasons that one can not account for, and next season may be one of your best. Get at least one new queen, and then hope.

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

January Texas Honey-Plants

It is of much value for every bee-keeper to know his honey-plants, when they bloom, and their value to his bees. Here in Texas we have some plants blooming practically the whole year, that are of some value to the bee-keeper. Even in the month of December, the mistletoe—about which everybody knows—comes into bloom. It is of value for its pollen. This is soon followed by others in January, and by many more as the season advances.

My collections contain specimens of most of our important honey-plants, and of these I have made a card catalog from which I will each month give the names of the plants blooming at that time, together with their distribution in the State, as far as is possible, and their value as honey or pollen yielders. I should be glad to hear from others about the honey-plants of their respective localities, not only in this but in other Southern States.

AMERICAN MISTLETOE.

Phoradendron flavescens (Pursh) Nutt. American Mistletoe. Family *Loranthaceae*. Mistletoe Family. This is a shrubby, evergreen, parasitic plant on branches of trees, such as the elms, oaks, mesquite, bois de Arc, and others. It has jointed and much-branched stems, thick and firm green leaves. The flowers are small and greenish yellow. The fruit is a small, white, viscid berry. It grows in bunches or clusters, and is somewhat odd and pretty in appearance, hence much used for decorative purposes, especially during the Christmas holidays.

Mistletoe is the first source of the season, beginning to bloom in December and into January, yielding an abundance of bright yellow pollen and honey, which makes it valuable for early brood-rearing. It is widely distributed throughout the entire State of Texas.

BUSH HONEY-SUCKLE.

Lonicera fragrantissima, Lindle. Bush Honey-suckle. Family *Caprifoliaceae*. Honey-suckle family. A shrubby vine, cultivated, with yellowish-white flowers, blooming in January. Honey-yield extremely early and also pollen. Much visited by bees and valuable to stimulate the bees if the weather is favorable. Throughout Texas.

TRIPLE-LEAVED BARBERRY.

Barberis trifoliata, Moric. Triple-leaved Barberry. Family *Berberidae*. Barberry family.

An evergreen shrub with yellow wood, growing 4 to 6 feet high, and often forming large thickets. The leaves are cut into 3's, and these are lobed with 3 to 5 spines. The flowers are yellow, and are borne in clusters close to the stems. The berries, about as large as peas, and red in color, are the fruit. These are sweet and acid when ripe, and can be eaten. The fruit is much used for preserves, jellies, and for barberry wine. "Agberites" is the common Mexican name for this shrub. It is found mostly on gravelly slopes and foot-hills, from the Gulf Coast to the Limpia Mountains, according to Coulter. It yields honey and pollen in abundance, and is the best of our early bloomers for brood-rearing, blooming from the latter part of January into February.

From Ireland—Reading Bee-Papers

The editor of the Irish Bee Journal has sent me several marked copies of his paper, calling attention to several abstracts (?) which he has made from the American Bee Journal. This is much appreciated, and we understand his good meaning. We shall use our "honest opinion" and investigate the matter of "keeping bees by reading one or more bee-journals," etc., and report as soon as the results have been obtained. Yes, 'tis true it makes a difference whether "a bee-journal is filled up with stuff suitable for a dime novel," and also whether such journals are "paid for, or gotten for nothing, free of charge." My "honest opinion" is that bees can be kept better by reading one or more good bee-papers than without them, whether you pay for them or get them for nothing.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Report of the Ontario, Canada, Convention

REPORTED BY MORLEY PETTIT.

[Continued from page 31]

STIMULATIVE FEEDING—REPORTS.

I would advise anyone who can not stay right with his bees to let stimulative feeding alone, and to bruise capped honey whenever the weather is favorable, and when you can stay right with the bees and see that started larvæ is kept fed.

Mr. Pettit—You might have combs uncapped inside, and take them along to the yard. This saves the wax of the cappings, and saves keeping the hive open while you bruise the cappings.

The Director's Report, Secretary's Report, and Treasurer's Report showed a successful year for the Association. The Transportation Committee's Report showed that some points had been gained from the Railroad Commission, principally the reduction of the minimum car-load of honey from 20,000 to 12,000 pounds. Beeswax has been changed from first-class to fourth-class rating.

Mr. Grainger, representative to Toronto Exhibition, reporting, urging beekeepers to take more interest in the Exhibition as it offers a great opportunity to educate the public on the food-value of honey. He showed a plan for the new building which will stand where the old main building stood. It is proposed to have windows at the rear, so that the light can shine through the honey. There will be many improvements to make the best building we have had to exhibit honey in.

There was more discussion on the Alexander method of strengthening weak colonies. Some considered it a help, and others thought it a disadvantage.

FALL MANAGEMENT OF BEES

Fall management consists of preparing our bees for winter, for spring, for next season, and in many ways it is laying the foundation for future success.

The work of the fall season may be lessened to a great extent by the system of managing during the summer season. About the middle of September make an examination of each colony, find out its condition in regard to its strength of bees and quantities of stores, as well as to know it has a good laying queen and is in a healthy condition. If sufficient bees to cover 5 Langstroth frames are found it will be safe to put such colonies into winter quarters; if less than this amount of bees it will be better to unite with another weak one and have a good colony.

To do this, remove about half of the lightest combs from colonies to be united and, sometime afterwards, on a cool evening, put 2 weak ones together by placing the combs of one with adhering bees alternately between the combs of another. Remove one queen if one is inferior to the other, otherwise the bees settle it amongst themselves. Be careful not to get too strong colonies in this way, as they do not, as a rule, winter as well as medium ones.

All colonies going into winter quarters should have a laying queen, and colonies that have been queenless a short time may be given a laying queen by some safe plan of introduction.

If the colony has been queenless since the swarming season it will be useless to spend time and feed on them, as the bees are too old and will die during the winter.

The most important part of the fall season's work is to provide each colony with sufficient good stores to carry them through until they gather feed next season. If we could supply them with about 25 pounds of good clover honey, well ripened and capped, there would be little danger of winter losses. We must have some reliable way of determining the amount of honey each colony contains, as found when on scales, allowing so much for the hive, combs, etc.; but I consider this unreliable, as there may be a difference of 10 pounds in the make-up of different colonies—a difference in the material of the hive, amount of brood, pollen, etc., in the combs. I consider an examination of the combs the best way of weighing stores, and if honey to the amount of 5 or 6 Langstroth frames is found, it will be sufficient. A colony with less than this amount should be given well-capped combs to make up the shortage, removing empty combs, and crowding the bees on as few combs as the food-supply and quantity of bees will allow, putting in division-boards or dummies; this keeps the cluster more compact, and in a body during cold snaps in winter.

If colonies are short, and combs of honey are not at hand, liquid feed may be given after first contracting the space for storing, as in the other case. As a rule, pure sugar syrup is fed, made from best granulated sugar; it may be given in any kind of feeder if fed early in the season. A handy feeder may be made to go into an extracting super made 1 inch smaller than the inside of the super; it may be made of undressed lumber, waxed at the corners, and made of different depths, to hold just enough for any colony, and a few strips or blocks of wood for floats put in.

Place the feeder on the tops of the frames, and if the weather is cool, feed the syrup warm, contract the entrance, and feed during the middle of the day. The syrup, I think, gives best results when made of a consistency of 3 parts sugar to 2 of water. Sometimes a little honey is added to prevent granulating, but I never practised doing it. Our syrup is made with steam, and it gives good satisfaction. A ½-inch steam-pipe is run down into a barrel or honey-storing tank; put in 2½ pails of sugar and 1 of water, until the tank is nearly full, then turn on the steam, which will warm the water and agitate the sugar; with a little stirring the sugar is soon dissolved, and the syrup can be drawn off at the bottom.

In conclusion I wish to say that what I have just given you on this question is solely for the preparation of bees for outdoor wintering. Not having any experience in wintering otherwise, I cannot say that it would answer for preparation for indoor wintering.

DENNIS NOLAN.

Mr. McEvoy—The middle of September is too late in the season to look for queen condition.

Mr. Holtermann—September is too late to know whether the colonies are queenless.

Mr. Hershiser—You can not tell by examining the combs for the amount of stores. You must weigh the hives to get the best results.

Mr. McEvoy—There should be plenty of pollen. Be sure there is plenty of honey or syrup, and it should be capped.

Mr. Newton—I should just try the weight.

Mr. Sibbald—After weighing several, then you can have learned to tell the weight without weighing.

Mr. Deadman—The strength of the syrup depends upon the time of year you feed. As to weighing, allow half-pound for one frame of bees.

Mr. Pettit—The neatest way to weigh hives is with a spring balance and arrangement to hook around the hive. Then as soon as the hive clears the stand, the weight is seen at a glance.

Mr. Couse—You can not feed back honey, as it will granulate in the comb.

Mr. Grainger—Save the combs and place them back.

Mr. Holtermann—You should be careful about feeding back honey, with reference to danger of spreading foul brood.

Mr. Nolan—You should not feed too late, because the bees can not ripen it nor cap it. I would rather feed good combs of capped clover honey than any other way.

Mr. Timbers—Will they not ripen it after the middle of October?

Mr. Hershiser—Isn't syrup not capped just as good as what is capped?

Mr. Bruune—You can feed in the cellar at any time. Simply take tin dishes and slip them under the cluster. Make a syrup half water and half sugar. It is best, though, to have the feeding done by October 1st.

J. D. Evans does not think it matters if the syrup is not capped. He likes to feed late, so the bees will not use it

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up before winter. If you have the right kind of cellar, that is, dry enough, you you can feed in the cellar at any time.

Alex Taylor had a similar experience.

Mr. Sibbald—It pays to make a good syrup 2 to 1, and boil it. You can't feed enough thin syrup in a short time for winter. You must give it to them thick. It is safer to follow along good lines that you have tested, than to leave them.

(Continued next week.)

Conducted by E. L. Byer, Markham, Ont.

Wintering On Solid Sealed Combs of Honey

Readers of the American Bee Journal will possibly remember that only a few months ago the writer had a friendly "mix up" with Dr. Miller and Mr. C. P. Dadant on the above subject. As an evidence of proof that Mr. McEvoy (an earnest champion of the system) is not at all afraid of risking everything by following the plan, I submit the following from a private letter just to hand:

"I have the bees in every one of my colonies crowded up with division-boards. Each colony has from 4 to 6 combs, all of which were sealed from top to bottom in September." As Mr. McEvoy has somewhere in the neighborhood of 300 colonies, any one who has an idea of a wholesale death loss, would better write to him in May or June next, sending their sympathy, and at the same time convince him of "the error of his ways."

Those "Mouse-and-Honey" Experiments

Those experiments recorded by Mr. Hasty (page 1036—1906) are quite interesting. At the risk of exposing my ignorance, I must confess that although I have many a time known mice to eat honey, yet previous to Mr. Hasty giving his ideas on the matter I never suspected that they recognized honey as "drink" rather than "meat."

More than once I have left piles of extracting combs at an out-yard where the honey-house was anything but mouse-proof. While I always like to know that mice are pretty scarce around the place, yet we can never be positive but that some may put in an appearance. To settle this matter, I always set aside two or three combs with honey in, close to the piles of super combs. On my next visit, if the *combs with honey in* were not touched, there was no need of looking at the empty combs—there were no mice present. If the honey was eaten any, sometimes traps were set as recommended by Mr. Hasty; but instead of putting a dish with water in for drinking purposes, we would substitute a dish of meal with a percentage of arsenic mixed in.

I remember on one occasion I called at the honey-house in question and found that the mice had been levying a pretty heavy toll on my "test" combs, and I also recall the fact that although quite early in the fall there was considerable snow on the ground, and unmistakable evidence that the offending mice had come from the outside of the building through the snow.

It seems strange that these mice did not quench their thirst with the moist snow instead of gouging into the combs of honey, especially as the snow was not more than a foot or more away—some of it actually being on the floor, having sifted in through a crack in the wall. However, mice may be like quite a few people—prefer to have their *drinks* well sweetened.

While there is no question that mice are a nuisance, yet with ordinary precautions there is no need of much actual loss from that source. While I have some 5000 extracting combs scattered around, some of them, as I have intimated, in places not mouse-proof, yet I do not believe that I have lost two dozen combs by mice since I have been keeping bees. My worst experience was with the common red squirrels—an experience lasting and decisive. Lasting, because it cost me about $25; and decisive in so far that all the culprits were shot inside of 24 hours after I learned of the damage; and also because I mentally *decided* never to take chances again with a red squirrel, if he were within a quarter of a mile of the combs at an out-yard.

The mischief was all done inside of 2 weeks in November, 1905. Everything was all right when I left the yard after packing up for winter. When I called again in 2 weeks, what a change! During my absence, 4 squirrels had "moved in" and taken possession, and proceeded to fix up things for winter according to a squirrel's idea of comfort. The farmer on whose place the bees are, had built the honey-house and had finished the building by papering inside with heavy building paper. Not one square foot of this paper was left entire! At least a dozen holes were chewed through the walls and roof for convenience of entering. Three or 4 supers were taken possession of for nests; the combs were all cut out, and the paper from the wall carried in by the peck, and mixed up with grass, feathers, and other litter.

A person would not think it possible that 4 such small creatures could work such destruction in so short a time; and while I felt somewhat annoyed at the damage done, yet I confess that it was with a feeling of pity that I dislodged them from their snug quarters. I was made to think of the passage in Proverbs, referring to "things that are little upon the earth, but are exceeding wise"—feeling sure that our mischief-loving little squirrel would not be misplaced if classed among the number.

How the Bees are Wintering

To-day, at 9 a.m., the temperature was 48 degrees. The sun is shining, and bees wintered outside are likely to get a flight. Mine are all in the cellar, the temperature of which in the middle runs about 46 degrees, and I think they are in excellent shape.

R. F. Holtermann.

Brantford, Ont., Dec. 31, 1906.

I hope expectations were realized. I am sorry to say here in York county, although fine in the early morning on the day in question, later—about 10 a.m.—the sky became clouded over, and the bees (and bee-keepers) were disappointed.

My bees are all outdoors, and they have not had a flight since Oct. 25. If they could have but *one* flight any time now, personally I would rather that were the last till some time in the latter part of March. Barring that *one* flight, things may not turn out any too well. But time will tell the tale.

Honey from Alfalfa in Ontario

Can we expect anything from alfalfa here in Ontario? From the Farmers' Advocate I clip the following:

"At the annual conference of the Victorian Apiarists' Association, Melbourne, Australia, Dr. Cherry, Director of Agriculture, in an address, said he thought he might, perhaps, get bee-keepers to act as propagandists in the culture of lucern. He believed that if alfalfa [lucern] were more generally grown the bees would gather more honey. Honey produced by the legumes is of the best quality. This family of plants produce in their tissues abundant nitrogen—the element which enters into the composition of protein. From analysis of samples of pollen submitted to him, he had found in the case of pollen from cultivated plants of alfalfa as much as 27 percent of protein; eucalyptus showed 20 percent, and weeds 10 percent. Pollen, with a high percentage of protein, is said to be necessary for the rearing of strong brood, and if Dr. Cherry's claims are well founded, Canadian bee-keepers should become enthusiasts in extending the area of this invaluable agricultural plant."

While alfalfa has, aside from its value as a honey-producer, enough claims to warrant it being grown on every farm, yet I very much doubt if Canadian apiarists have much to hope for from this source.

As to its possibilities in Alberta and other Western localities, under or about to come under irrigation, I know

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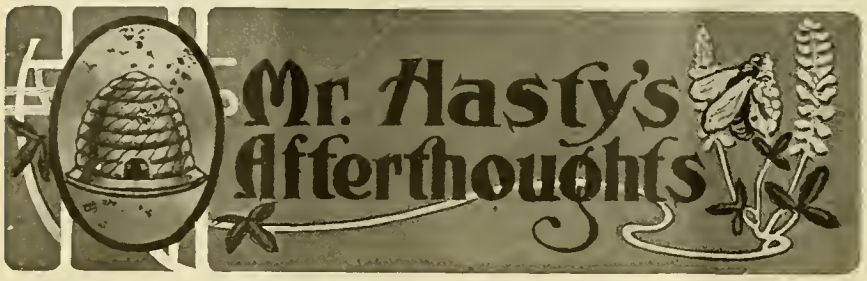
nothing; but as to Ontario and Quebec, I have heard of only one instance where bees have been reported as working on alfalfa. This report came from Mr. Adams, of Brantford; and while Mr. Adams is a reliable source of information, yet it is a question in my mind if he finds the same thing to happen *very often* in his locality.

For 10 years we had about an acre of alfalfa within a few rods of the home apiary, and while it was in all stages of bloom through the season (being cut from time to time for green feed), yet I don't remember ever seeing a bee on the blossoms, even when there was a total drouth of honey, and the alfalfa was in the height of bloom.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

REQUIREMENTS FOR SWARMING.

I feel like driving a "coach and six" right through C. W. Dayton's three requirements for swarming. These were old queen, populous colony, and honey-flow. One may have the youngest kind of a queen, only a few hours old, a colony not nearly populous enough to do good work, and decided dearth of nectar in the flowers; and yet with a swarmy strain of bees, and a swarmy location, and the cell building half of a recently divided colony, there may be a natural swarm. When bees get the swarming fever furiously, and are compelled to wait because they have no queen out yet, the fact that the honey-flow has ceased and famine times have begun, is not always sufficient to halt them. Influences in that direction, but not always sufficiently. Page 999.

METHODS OF FOUL BROOD TREATMENT.

And the world will move. We had become settled that shaking bees onto clean foundation or starters (repeatedly, if necessary) was the way to cure foul brood. Now we learn that both in California and in Texas curative methods are being abandoned in favor of total destruction. And we also (wrathfully) read of the inspector who gets his pocket instrument well loaded with the virus of foul brood in one apiary and plants the same in the next apiary which happens to be clean. Page 1000.

SEAL FOR GUARANTEED HONEY.

Then hurrah for the brother that can invent the most convenient seal for guaranteed honey! But it must be thoroughly rascal-proof, else a less convenient kind that is proof would be greatly preferable. Right at this point the oft-recurring need of reliquefying may be bothersome. Who'll give us a seal that will hang tight to its duty while the package is being reliquefied? Page 1004.

VALUABLE QUALITY OF CAUCASIAN BEES.

Frank Rauchfuss certainly puts in a valuable additional quality for the Caucasian bees. Virgins stand 30 days caging without companions. Not altogether clear whether immersed in bees or away from the bees. Surprising any way. Yet virgins of *Homo sapiens* consent to 30 years' caging, and seem to like it! But there must be a well-chosen companion. Page 1013.

HOW TO SHAKE BEES OFF FRAMES.

Mr. McMurdo is "a man after my own heart" when he takes a shot at the "patent" ways of holding and shaking frames which have been published. And he's O. K. when he tells you to let the projections alone and grip well down on the end-bars. The way to shake bees off is to shake—shake good and hard—shake like Marco Bozzaris wanted his men to strike. And, eke, put some brains in the performance, and learn for yourself a practical movement that works. Quickness counts more than elephantine force apparently; and peculiarities of motion count for something. But none of your holding the end-bar between first and second fingers like it was a lead-pencil. Page 1016.

BEES AFTER MEAL IN RED-PEPPER, PERHAPS.

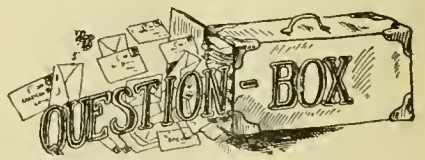
Sister Wilson, that red-pepper was badly adulterated with meal, I reckon, 60 percent or so. The bees went for the meal and succeeded in ignoring the fiery stuff mixed with it. Very remarkable, and worth some study, that they should be able to ignore red-pepper for the sake of the meal. Still it may turn out that bees *like* red-pepper, for its own sake; and that would be more remarkable still. Babies in hives where cayenne takes the place of pollen would never need any of Perry Davis' Pain-Killer. Page 1018.

A GOOD-BYE AND SOME ADVICE TO MORLEY PETTIT.

And so we must say good-bye to Morley Pettit. Well, parting is a more tolerable kind of sorrow when our brothers do not "pull a tombstone over their heads" when they go. Wanting to do more for the good of man is certainly a noble reason for making a change; so we will applaud instead of scold. By the way, however, the man who has a department in a journal of world-wide circulation, has no right to say, "I am a dry tree" so far as opportunities to do good are concerned. Christian preaching not so scarce as Christian writing—Christian writing to the extent of earnest watchfulness to get in a word for the right whenever an opportunity occurs. I'll take a dose of that myself right now. Here's advice to him as he goes: Don't follow the new and awfully prevalent style of preaching humanitarianism to the extent of forgetting that man has a soul. Man has a soul that dreadfully needs discovering and cultivating—never so badly as now. Don't agonize much to mend biblical or theological broken eggs. There are still some valuable eggs left that are not broken. Hatch 'em. Page 1031.

PROF. WILEY AND PURE FOOD LAW.

Yes, as we have much that's ill to remember of Prof. Wiley, we might in justice remember that he was very prominent in the fight for the Pure Food Law, which, after many defeats, finally won out. Page 1029.



Send Questions either to the office of the American Bee Journal, or DR. C. C. MILLER, Marengo, Ill. (Dr. Miller does *not* answer Questions by mail.)

Getting Candied Honey Out of Combs

I left the top supers on full of honey last fall, so that the bees would not starve, and from the way it looks it will last all next summer. How do you get the bees to work the candied honey over so as to get it out without destroying the comb? UTAH.

ANSWER.—I don't know any very good way. Perhaps you may do it in this way: Uncap any that are sealed, and sprinkle all the surfaces with a fine spray of water. If you have nothing better, you can use a whisk broom to sprinkle the water. As fast as the bees clean it up dry, sprinkle again till the honey is all out. They will do it more surely and more rapidly if you set the honey away from the hives, instead of letting each colony keep its own super. But in that case you must allow a passage so small that only one bee at a time can enter the super, or else the bees will tear the combs to pieces. Of course, if neighbors' bees are plenty, and close by, they may get more than your bees.

Wintering Bees on Cakes of Sugar

I had 2 colonies of bees that were almost entirely out of stores for the winter. So on Thanksgiving Day I put a cake of sugar on top of the frames of each of them, just above the cluster of the bees. To one I gave a cake made of granulated white sugar and the other of brown sugar. Each cake was made by boiling 5 pounds of sugar with a pint of water until it would grain so as to form a cake by putting it in a shallow tin pan and letting it cool. Now what I want to know is, How long do you think that sugar will last

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those bees? They are wintering out-doors. I thought, perhaps, it would be necessary to give another cake some time this month, provided the bees were still alive.

I have been reading the American Bee Journal for some time, and notice that you occasionally answer a few questions, and maybe you might help me out of my uncertainty, and at the same time save those 2 colonies of bees. One of the colonies contains a Caucasian queen that I am very anxious to have some fun with next summer. I understand that Caucasian bees can sting if they want to, but seldom seem to have the desire. I think that kind of bees would suit me exactly, for I never did enjoy being stung, any more than some people "enjoy poor health."

If I am successful in getting the information I am asking for, I may come again some time.

Your answers to questions in the American Bee Journal I consider the best thing for beginners. NORTHERN ILLINOIS.

ANSWER.—For some time after Thanksgiving Day the bees are likely to consume less than at any other time; yet the amount they consume varies greatly. Two colonies, side by side, apparently alike, will consume different quantities. Five pounds of sugar made into syrup (equivalent to about 7 pounds of honey) may last a colony in the cellar clear through till time to be taken out in spring, and it may not last till February. At any rate, you will be on quite safe ground if you renew the supply before Feb. 1. Outdoors, better see to it a week or two sooner. You will understand, of course, that no harm can come from being a little too early, while a little too late may do a good deal of harm.

Please report how the colonies come out. I should not expect the brown sugar to do as well as the granulated.

Treatment for Bee-Paralysis

What is the best way to cure bee-paralysis without spreading it, and without burning the hives? Will washing the hives with strong salt water help it, when the bees and honey are out of them, and the hives have not been used for a month or two, or all winter? I have used sulphur on the alighting-board for some time, but it did not help it. IOWA.

ANSWER.—I didn't suppose that bee-paralysis would be very bad so far north as Iowa. I don't believe salt water would do any good, and probably there would be no danger in using the hives over again. Many cures have been offered, but it seems none have stood the test unless it be sulphur, and some have no faith in that. Possibly you did not have the sulphur as deep at the entrance as those who have had success in that way. But Mr. O. O. Poppleton, who is the most prominent advocate of the sulphur cure, does not use it at the entrance, but powders it on the bees and combs. If the disease acts with you as it has with me, it will disappear of itself without any worry on your part; but down South it is a terrible scourge.

Preventing Honey-Granulation by Heating

1. What is the best way to heat white honey that is to be sold in glass jars? and to what degree must it be heated so that it will not granulate?

2. How should I heat buckwheat honey before it granulates so that it will look clear, and not granulate when put in glass jars? I tried to heat buckwheat honey before it granulated last fall, and I could not do anything with it. If I got it a little too hot, it would look cloudy or muddy; and if I did not get it hot enough it would granulate after being put into the glass jars. NEW YORK.

ANSWER.—Whether the honey be light or dark, it should not be heated to more than 160 degrees, and it will be better not to go above 130, allowing it a long time to melt the grains. Those who melt it on a large scale have special apparatus for that purpose. If you do not care to melt more than 50 or 100 pounds at a time, you can do that with utensils you are likely to have on hand, using a kitchen range or cook-stove. Don't set the vessel containing the honey directly on the stove, but set it in another vessel containing water, having a thin board or something else for the honey-vessel to rest on, so the inner vessel will not come directly in contact with the bottom of the outer vessel. If the water in this outside vessel is never allowed to come to the boil, there is not much danger that the honey will be heated too much, but it is well to have it on the back part of the stove to make the melting slower. No matter how you melt it, it will granulate again unless it is sealed up. I have never tried it, but it is said that if it be sealed at 160 degrees it will not granulate again.

Painting Hives

1. Can I paint my hives containing bees at any time of the year? And if so, at what time? I thought maybe I could paint the hives during winter, but having chaff-packed hives I would not have any chance, for during winter it would be impossible for paint to dry outdoors.

2. What paint is best for chaff-packed hives? MICHIGAN.

ANSWERS.—1. You can paint your hives any time of the year when it would do to paint a house. Of course, as you suggest, it will not do to paint in freezing cold weather, but as soon as thawing weather comes it will be all right. Your chief desire, no doubt, is to know whether you can paint the hives at a time when bees are active. Yes, you can do it even when they are in their busiest season. The only thing to look out for is that the bees don't stick in the paint before it dries. If it is made rather thin there is little danger. If you paint a hive in the evening, as soon as the bees stop flying, using a little drier in the paint, by morning no bee will stick in it. Of course, it will be well to be rather gentle in painting, for if you should pound on the hive too hard with the brush, it would rouse the curiosity of the bees to investigate.

2. Any good outdoor paint, white lead probably being as good as any.

Northern Indian Territory for Bee-Keeping

1. Is the northern part of Indian Territory a good place for bees?

2. Would you advise me to go there to keep bees, and make it pay? ILLINOIS.

ANSWER.—Although I have an impression that it is a fairly good bee-region, yet I have no positive knowledge about it, and wouldn't dare to advise in the case. Possibly some one else may tell us about it.

Why Did the Bees Die?

Some time in March, during a warm spell, I noticed a colony of my bees acting as if they were short of supplies. On examination, I found them entirely out, fed them rather thin syrup warm, and about a week after feeding them there came a very cold spell, about 4 degrees above zero. After it became warm again I found a number of dead bees on the alighting-board. On looking into the hive I found them all dead. The syrup was in the cells of 3 frames. During this warm spell I thought I would try stimulative feeding, so began with 3 colonies, 2 rather weak ones and one good, strong one. In a few days after feeding thin warm syrup, another cold spell came not so cold as the other (about 20 degrees above), and the bees did not come out for a week. When it warmed up again I found the strong colony nearly all dead, and the 2 weak ones doing nicely, and they did as well as any I had during the summer. I would like to know the cause of the dying. They were all in dovetailed hives. MISSOURI.

ANSWER.—Your letter partly answers itself, and if I read correctly between the lines, your question is rather to confirm your own opinion than to seek light upon a question on which you are entirely ignorant. The bees being filled with a lot of water (of course in the syrup), were in no condition to withstand the cold, and succumbed. Granted that it was fed warm, it wouldn't stay warm, and the evaporation was of course a cooling process. "But why was it that the 2 weak colonies throve under the same treatment that killed the strong one?" Now, look here, don't try to get me in a corner and expose my ignorance. Your experience in dealing with human ailments has told you that what will kill one man doesn't kill another, and no one can tell just why. But seeing it's you, I'll make at least a guess in the case. The strong colony was thoroughly active, and thoroughly loaded up; and the weak ones were more inclined to be sluggish, and a smaller proportion of their bees worked on the syrup, and when those that carried down the syrup shared their loads with the others, none were discommoded.

The moral is, that while stimulative feeding may do good, it may do harm; and after many years' experience I feel that it is a pretty safe thing to let alone. Of course, it's the right thing to feed rather than to let a colony starve; and the thing to learn is to have plenty of stores in the hive to last through. It takes a long time to learn that, especially with small hives.

Wintering Bees Outdoors, But Enclosed With Wire Frame-Work

I winter my bees on the south side of a building in a place built on for that purpose, packed in straw, and they trouble me by flying out on warm days and alight on the snow and die. Of late I have made a frame-work of wire-netting which gives them a chance to come out, but they can not fly away now. Is it as well to have them so, or would it be better to let them fly? MAINE.

ANSWER.—Whatever you do, don't try to keep the bees in by force. The only kind of wire-cloth that should close the winter entrance of a hive is the coarse kind having about 3 meshes to the inch. That will bar the mice, but will allow the bees a free passage. The trouble is that if you use wire-cloth that will fasten the bees in, then any bee that wants to get out will stir up others and get the whole hive in such commotion as to do quite a bit of harm. You can darken the entrance to keep out the light. But after they have been in for some time there may come a warm day when you want them to fly, but don't want them to drop down into the soft snow to die. You can tramp down the snow so it will be hard for some distance in front of the entrance. You might also throw hay, straw, old carpet, etc., on the ground. It is only fair to say that you are not to count as a total loss all the bees that come out and drop down. More or less of the bees are getting old through the winter and dying off, and it is just as well, or better, that they come out to die. If you should put into winter quarters a colony of 50,000 bees, and 25,000 of them should live through to begin work next spring, you may feel well satisfied. In other words, you needn't worry yourself sick if half the bees die between now and fruit-bloom.

The Chicago-Northwestern Convention Photograph was taken Dec. 6, 1906, which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

American Bee Journal

Reports and Experiences

Bees Did Fairly Well

My bees did middling well the past season. Some did very well, while others did nothing more than fill the brood-chamber, but not one section. I have taken the American Bee Journal for over 20 years. We sell our honey around the place at 13 cents a section, or 2 for 25 cents. If less than one pound, it goes for 10 or 8 cents. Others we use ourselves or for feeding to the bees. The colonies are all heavy with winter stores.

GEORGE HODGES.

Belmont, N. Y., Dec. 29, 1906.

Last Season a Total Failure

I have kept bees (usually about 100 colonies) for about 30 years, and the past season is the first absolute, total failure I have ever had. I have now only 52 colonies.

Gilson, Ill., Jan. 8. C. W. McKOWN.

Poor Season, But Living in Hopes

I had 64 colonies in the spring of 1906, and got 734 pounds of extracted honey, and 1065 pounds of comb honey. This honey was fair to good, but very little of it was choice or fancy. I sold nearly all of it to my home trade at 10½ cents a pound for extracted, and from 14 to 16 cents a pound for comb honey. I have now 90 colonies in good condition, and, like almost all other bee-keepers, live in hopes. THEO. REHORST.

Campbellsport, Wis.

Season Short and Dry

The honey season was short in our part of Missouri. My 12 colonies averaged 40 pounds each. The Italians did better, for I took off as high as 3 supers of honey from each of them. I had one swarm. It was too dry for honey here last summer. C. E. BAKER.

Milan, Mo., Dec. 20, 1906.

From "a 3-Year Old"

The first of January marks the close of my third year as a subscriber to the American Bee Journal. I am owner of a small apiary, and have on hand about 600 pounds of honey for the season's work. I find the Journal very helpful in my work. J. KRAPP.

Linden, Iowa.

Secured a Good Yield of Honey

I live at the foot of the Adirondacks, or the Spur—not very good for a bee-keeper, but I manage to get quite a bit of honey. The past season was very fair here. With 26 colonies, spring count, I increased up to 39, and have 2350 pounds of honey—1400 comb and the rest extracted; besides, we have honey every day for our own use.

My bees are very heavy in stores for winter. I have them in the cellar in a room by themselves. Our honey is clover, basswood, buckwheat, and heartsease for fall. I make my own hives, bodies, covers, and bottom-boards. I use the Hoffman frame and the 4½x4½ sections. No trouble to sell all the honey I had, and had to buy more. I have had to contend with black brood. It was hard to get it cured to stay cured, on account of the box-hive farmers and carelessness of the farmer bee-keepers; that class of bee-keepers in this part of our town are now out of bees, and it will be a good thing for those that are *bee-keepers*. I could not teach them. They cared for only enough honey for their own use—only poor stuff at that, with bee-bread and larvæ all mashed together. They would not take a bee-paper, claiming it was useless to go to the expense of frame-hives, and they knew all about it—more than any paper could tell them! They are "wild" now, when they see me taking super after super from a hive, and call me a wizard. I love the bees; love to watch them and care for them, and to attend to all their little wants—and large ones, too. E. M. LAWRENCE.

Mayfield, N. Y., Dec. 12, 1906.

Home Demand for Honey

I got about 2800 pounds of honey the past season. I am getting quite a good home demand. I shipped 500 pounds, but am afraid I will run short at home now.

HUGO ZACHGO.

Danforth, Ill., Dec. 7, 1906.

Poorest Season for Surplus

My bees were all in winter quarters in good shape, Nov. 20. I think the past season was the poorest for surplus honey that I ever saw. Some of my best colonies filled one super, while others had to be fed. I work for comb honey, as a rule.

Success to the "Old Reliable."

JOHN CLINE.

Darlington, Wis., Dec. 31, 1906.

CONVENTION NOTICES.

Minnesota.—The Fillmore County Bee-Keepers' Association will meet in the Court House at Preston, Minn., on Friday and Saturday, Jan. 25 and 26, 1907.

Canton, Minn. P. B RAMER, Sec.

Vermont.—The 32d annual convention of the Vermont Bee-Keepers' Association will be held in the parlors of the Addison House, Middlebury, Vt., Jan. 24, 1907.

Shoreham, Vt. W. G. LARRABEE, Sec.

Colorado.—The 27th annual session of the Colorado State Bee-Keepers' Association will be held in the Chamber of Commerce Building, Denver, Colo., Jan. 22 and 23, 1907. The State Horticultural Association, the State Forestry Association, the Dry Farmers' Congress, the American National Stock Growers' Association, and the Colorado Cattle and Horse Growers' Association, will all hold their annual sessions in Denver during the same week. Besides this there will be the greatest live stock show held in Denver ever west of Chicago. The railroads have made a fare of one and one-third for the round-trip for this week, which should assure us a large attendance. A section-putting-up contest will be a feature of our meeting.

G. J. TOMLIN, Sec.

FRANK RAUCHFUSS. Vice-Pres.

Wisconsin.—The annual meeting of the Wisconsin State Bee-Keepers' Association will be held in the Court House, at Madison, Wednesday and Thursday, Feb. 6 and 7, 1907. Reduced rates on all railroads, but if you cannot obtain them, ask your agent for full fare receipt. By courtesy of Mr. Bacon, of the G. B. Lewis Co., arrangement has been made to have a stenographer in attendance, to take a verbatim report of the entire proceedings, which will be published for the benefit of members and interested bee-keepers. This feature will make this the most interesting convention ever held by the society. The Question-Box will be the main feature, and we want every bee-keeper who has one or more questions of interest to mail them to the Secretary prior to the convention, that they may be properly arranged. Questions may be handed the Secretary at the convention, but mail them prior if possible. We also want a good honey display, so bring your choice samples of honey or anything of interest. Pres. France will speak on the Inspector's Convention in Texas, and Diseases of Bees. Every person may become a member, for one year, by the payment of $1.00, which will also make him a member of the National Bee-Keepers' Association, which alone costs $1.00; and every member of the National, not a member of the State, should pay his dues to the State Secretary, and for the same money, become a member of both. Ladies may become members by the payment of 50 cents for National dues. Kindly make remittance for membership dues before the meeting, to the undersigned.

Augusta, Wis. GUS DITTMER, Sec.

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No. 4—Doolittle's "Scientific Queen-Rearing," (cloth bound) book alone, $1.	1.75
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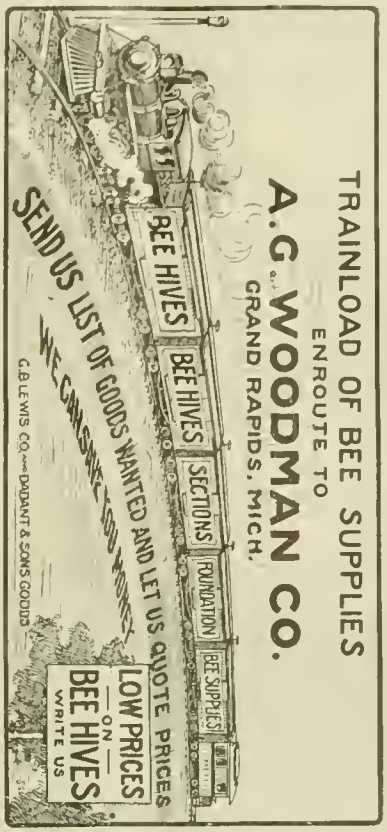

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

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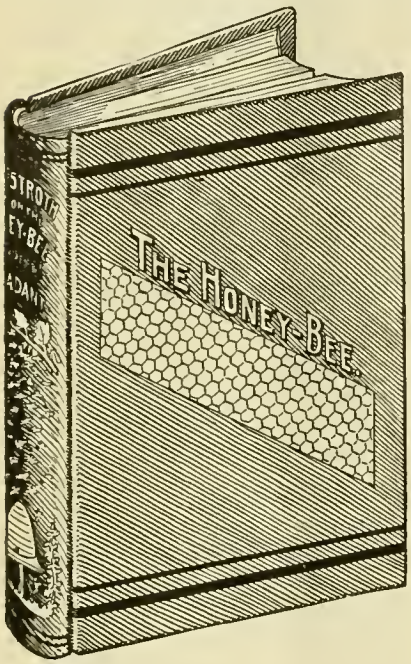

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Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Dec. 28—The demand for comb honey is only fair with market well supplied; market is almost bare of extracted, however, and the demand very good. We quote: Fancy white comb, 24-section cases, $3.25; No. 1, $3.00; Extracted, white, per pound, 7½@8c; amber, 7@7½c. Beeswax, per pound, 25 cents.
C. C. CLEMONS & Co.

CINCINNATI, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax, 30c.
C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Dec. 3.—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c. HILDRETH & SEGELKEN

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3.20; No. 1 light amber, $3; and good No. 2, at $2.80. White extracted, 8@8½c; light amber, 7½@8c. Beeswax, 26c for clean yellow, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Jan. 9—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14½@16c. Extracted amber honey in barrels, 6@7c; fancy light amber in cans, 7@8c; fancy white, 9c. Strictly choice beeswax, 30c, delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS & NICHOLS CO.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

Cash for Beeswax
Until further notice 30c cash paid for pure, yellow beeswax, delivered here.
Frank C. Clark, 147 E. Kinzie St. Chicago, Ill.

LET ME QUOTE YOU A PRICE

and save you 30 to 50 per cent on my full line of Split Hickory Vehicles. Sold only direct from my factory on 30 days' Free Trial and 2 years' Guarantee. Don't think of buying until you write me a postal for my special proposition and

BIG BUGGY BOOK

—bigger and better than ever this year. Illustrates 125 styles and gives prices on

Split Hickory Vehicles

Tells how I use hickory *split* with the grain (*stronger*) instead of *sawed* wood in my vehicles. Why *split* hickory is the best—lasts longer—looks better. Tells how I upholster, trim and paint my buggies. Gives photographs of my full line of high-grade Harness. Write me today.

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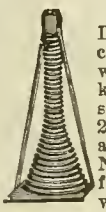
Station 322 Cincinnati, O.

30 Days' FREE Trial

Mention Bee Journal when writing.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

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WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
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Beauty, Purity, Firmness. No Sagging, No Loss.

Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

DADANT & SONS, Hamilton, Ill.

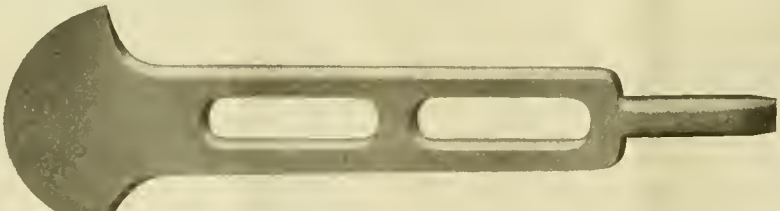
SEND FOR OUR CATALOG

Mention Bee Journal when writing.

Something New=The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



Only 30c. by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅜ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

GEORGE W. YORK & CO., 334 Dearborn Street, CHICAGO, ILL.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken

265 & 267 Greenwich Street

NEW YORK, N. Y.

Mention Bee Journal when writing.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year JANUARY 24, 1907 Number 4

AMERICAN BEE JOURNAL

MR. AND MRS. LOUIS H. SCHOLL.
(See page 66)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of thia Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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14 lines make one inch.
Nothing less than ½ inch accepted.

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These rates are subject to either time or space discounts, at choice, but not both.
Reading Notices, 25 cents, count line, subject to the above discounts.
Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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1 Steam Pump.
1 Large Butter-Mixer.
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2 Wooden Vats—8 to 16-ft. long, each.
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75-gal., 300-gal. (metal with wood-jacket), 400-gal. and 500-gal.
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in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,
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Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like t best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

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WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
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Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

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American Bee Journal

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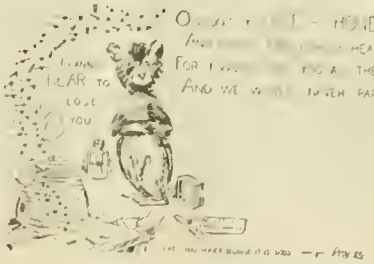
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

are just the thing.

We send them by Return Mail.

As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10 cents (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25 cents. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to



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Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

Lewis Goods at 3 percent Discount DURING JANUARY, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
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Samples of Honey analyzed. Correspondence solicited.

Send for free Catalogue.

Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.

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BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ Catalog Free.

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

Write for prices on *Finest Extracted Honey*. Certificate guaranteeing purity with every shipment.

SPECIAL DISCOUNTS on early orders for **Supplies...**

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.
Mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
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Liberal Discounts to the Trade.

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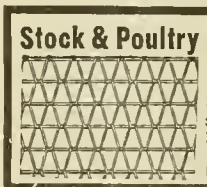

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The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
334 Dearborn Street. - CHICAGO, ILL

American Bee Journal

Trade Notes. The A. I. Root Co., Medina, Ohio.

Photographic Competition

We are pleased to announce another series of prizes for the best photographs submitted to us, as described below, in two series, American and Foreign, under the following conditions:

FIRST.—The competition opens January 15th, and closes October 1st, 1907. All photographs intended for this competition must be in our hands by the last-named date.

SECOND.—Competition for these prizes is limited to bee-keepers or some member of the family. Entries may be made for as many different classes as may be desired.

THIRD.—A photograph entered in one class can not be entered in any other class.

FOURTH.—Each photograph should be marked on the back with the name and full address of the sender, and the class in which it is entered. This is important.

FIFTH.—In judging the photographs, the general appearance, neatness, etc., of the apiary, or exhibit, or yard, will be taken into consideration. Photos may be sent unmounted. We rather prefer them this way, and in a sollo or reddish-brown if possible. However, send such as you can get most easily.

SIXTH.—With each of the photographs submitted we would like a brief statement of the conditions under which the apiary was photographed or honey produced, or similar information regarding the photograph. This should be limited to about one hundred words.

SEVENTH.—All photographs and correspondence regarding the same should be addressed to Advertising Department, GLEANINGS IN BEE CULTURE, Medina, Ohio.

EIGHTH.—We reserve the right to limit the number of awards or withhold any award if no photo worthy is entered in the class.

AMERICAN COMPETITION
(Including Canada and Mexico)
AND
FOREIGN COMPETITION

The following are the classes in which entries may be made:

CLASS A.—Photographs of any apiary in village, town, or city.

CLASS B.—View of an apiary not exceeding six hives in town or city.

CLASS C.—Apiary in town or country of not less than six hives or more than fifty hives.

CLASS D.—Apiary in town or country of fifty hives or more.

CLASS E.—Photograph of comb honey produced by a single colony of bees; not less than ten sections, and this preferably in plain sections.

CLASS F.—Photograph of a bee-keeper's home, showing some view of the apiary if possible. The apiary need not be prominent in the picture, however.

CLASS G.—Photographs of a crop of honey from any number of colonies, six or more.

CLASS H.—Photographs of any apiarian exhibit of bees, supplies, or honey taken at fairs or shows of any kind.

CLASS I.—Photographs of any work in the bee-yard, such as hiving swarms, extracting, or any other operations with the hive.

CLASS J—Photographs of any other subject relating to bee-keeping not classified above.

PRIZES

	Value, Postpaid
FIRST.—One leather-bound "A B C of Bee Culture," 1907 English edition, or cloth-bound French or German	$2.00
SECOND.—One-half leather "A B C of Bee Culture," 1907 English edition	1.75
THIRD.—One "How to Keep Bees" and any two Swarthmore books	1.50
FOURTH.—One full cloth-bound "A B C of Bee Culture," 1907 English edition	1.20
FIFTH.—One "How to Keep Bees," by Anna Botsford Comstock	1.10
SIXTH.—No. 1 bee-veil, all silk	.80
SEVENTH.—No. 2 bee-veil, silk face	.50
EIGHTH.—One illustrated book, "Bee Culture in Foreign Countries"	.50
NINTH.—One Bee Model, Queen	.50
TENTH.—One Bee Model, Drone	.50

Ten prizes are offered for each class: Ten for Class A, Class B, Class C, Class D, etc.—one hundred prizes for American contest, and one hundred prizes for the Foreign contest; two hundred in all if that number of entries are received, the prizes offered being identical for each class for the American competition and for the Foreign.

If the winner of any certain prize already has the prize offered, we will, on request from him, furnish a selection of other items from our catalogs, of equal value.

Danzenbaker Prizes

It is to be regretted that so many bee-keepers are satisfied to produce year after year a very ordinary grade of honey as regards its appearance, when by a little more care, and having more suitable fixtures, and by taking the honey from the hive at just the right time, a much larger percentage of "fancy," or "extra fancy" honey could be produced, which would sell at a much higher price. The experience of honey-merchants generally is that there is no difficulty in disposing of large stocks of fancy or extra fancy, even when the market is dull. It is the inferior grades that suffer most at these times. We believe, too, that bee-keepers would be very much better satisfied with their season's work if their best efforts were made to produce a really fine product. To increase further the interest in extra fancy honey, the following prizes are offered for honey produced in Danzenbaker hives during the year 1907, under the following conditions:

FIRST.—As above stated, the honey must be produced in a Danzenbaker hive, either the present style or any Danzenbaker hive that has been put out within the last few years. These hives may be had of any dealer in bee-keepers' supplies in any part of the country.

SECOND.—For Classes 1 and 2 we require a shipment of approximately the amount stated, to be made by the bee-keeper direct to us at Medina. After the prizes have been awarded the honey entered for competition in Class 1 or 2 will be held subject to the instructions of the producer. We will sell it at 5 percent commission, or we will ship it to any point direct by freight or express. There being good honey markets in our immediate vicinity, such as Columbus, Cincinnati, Cleveland, Buffalo, and Pittsburg, it can be disposed of without difficulty at good market prices, and the shipper will not have to lose a good market by shipping it here. Neither the honey awarded a prize nor that which obtained no prize is to be our property, but will be sold subject to the instructions of the producer who sends it to us. We are interested only in inspecting it to award the prizes.

THIRD.—For all honey submitted for prizes we must have a definite statement from the producer regarding the conditions under which it was produced, whether a light or heavy flow of honey, how the colony was handled, how many colonies in the yard, from what source produced, etc.

FOURTH.—For Classes 3, 4, and 5, we must, in addition to the above report, have the signature of two witnesses, certifying to the correctness of the report. If the party who sends us the report for the competition is well known to us we shall not require these witnesses. References may be given instead of the signature of witnesses if desired. All parties intending to compete for these prizes should send for blanks which we will furnish, on which the report may be made out.

FIFTH.—It will be noticed in the last three classes, three to five inclusive, that it is not at all necessary to send us the honey—all we require is a report.

SIXTH.—We reserve the right to limit the number of awards in each class, or to make no awards in a class if there are no satisfactory entries for the same.

SEVENTH.—No contestant will be awarded more than one prize in each class, but may make two entries if desired—one in Class 1 or 2, and another in Class 3, 4, or 5.

The classifications for the prizes are as follows:

CLASS 1.—For best shipment of 200 lbs. of comb honey in Danzenbaker sections.

CLASS 2.—For best case of comb honey in Danzenbaker sections.

CLASS 3.—For best report of yield from single colony in Danzenbaker hive.

CLASS 4.—For best report of yield from five colonies in Danzenbaker hives.

CLASS 5.—Eor best report of general results from use of Danzenbaker hive.

For each class there will be ten prizes as follows:

FIRST.—$10.00.
SECOND.—$7.00.
THIRD.—$5.00.
FOURTH.—$2.00.
FIFTH TO TENTH.—$1.00 each.

This is the time to decide to enter this competition. No matter where you live, whether in the United States or elsewhere, you can certainly find one class in which you can make an entry; and as there are ten prizes in each class, we believe that no one will be greatly disappointed in the results unless it is ourselves, and we hope that we shall not be, but see a large number of entries. Even if you fail to get a prize, you will doubtless have increased the value of your own product by your efforts to produce some big results or an extra quality of honey.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 24, 1907 | Vol. XLVII—No. 4

Size and Weight of Sections of Honey

Bearing upon the question of uniformity in the weight of honey in sections of a given size, comes this note from Dr. C. C. Miller:

Here are some "fax and figgers" with reference to sections of honey produced by me, and all of them 4¼x4¼x1⅞ bee-way with separators, and all containing first-class honey:

In 1897 the average weight was 14.41 ounces per section.

In 1899 the average weight was 14.942 ounces per section.

The year 1903 was, I think, the best year I ever had. But like most years in this locality, there were variations in the flow—sometimes faster than others. In that year 18,132 sections averaged 14.866 ounces each; the heaviest 12-section-case contained 12 pounds and 14 ounces; the lightest 12-section-case contained 9 pounds and 13 ounces. The honey was piled in piles of 15 cases each, and the heaviest pile weighed 178 pounds; the lightest pile weighed 156 pounds.

Please take these figures, together with those of Mr. Ricketts on page 8, and those of Mr. Hall on page 17, and tell us what you conclude about being able to settle on a certain size of section that shall always produce just about a pound.

It must be admitted that in Dr. Miller's figures there is not much difference in the total averages of the different years, the greatest range being only a little more than half an ounce on a section; moreover, his averages are very close to Mr. Ricketts' 14⅞ ounces. But Mr. Hall's 792 bee-way sections averaged 15.414 ounces each, lacking the merest trifle of being an ounce heavier than Dr. Miller's average in 1897. That is bad enough, but nothing compared with Dr. Miller's figures for 1903. Between his heaviest and lightest case there was a difference of 3 pounds and 1 ounce, or a shade more than 4 ounces per section. Almost surely the difference was yet more between the heaviest and the lightest single *section*. Even when piles of 15 cases were taken, the difference between heaviest and lightest pile was 1.955 ounces per section, which would make a difference of 244 pounds in 2000 sections.

There is no question that a larger section would give larger average weight, but there is no reason to suppose that the variations in weight would not continue, and with a possible variation of 200 pounds or more in a ton, would Mr. Ricketts be satisfied to call such a section *about* 16 ounces?

How to Make Honey-Vinegar

From a bulletin of the Arizona Agricultural Experiment Station is taken the following:

When a barrel of honey-vinegar is to be made for family use or by the small producer, we offer the following formula:

Extracted honey, 40 to 45 pounds; water, 30 gallons; ammonia chloride, 4 ounces; potassium bicarbonate, 2 ounces; and sodium phosphate, 2 ounces.

One-quarter cake of dry yeast softened in luke warm water.

The chemicals for making 30 gallons will cost about 25 cents in a small way, but on a large scale not more than 10 cents. Somewhat larger amounts of potassium bicarbonate and sodium phosphate would give even better results, but the amounts are here cut to the minimum to bring the cost low enough to make it profitable.

In from 3 to 4 weeks all visible fermentation will have ceased and the yeast settled out. Now rack off the wine, add 10 gallons of good vinegar, containing a little mother, and let stand undisturbed in a place having as near as possible an even temperature of from 75 to 80 degrees Fahr. The acetic fermentation may be started by floating mother, or the scum from an old cask, on the surface of the mixture by means of thin cork-shavings. Carried out in this way, and a suitable temperature (temperature over 85 degrees Fahr., will retard the process and cause loss of both alcohol and acid), a good honey-vinegar can be produced in from 4 to 6 months.

Legislation for Illinois Bee-Keepers

We have received the following very important communication from Mr. C. P. Dadant, of Hamilton, Ill.:

MR. EDITOR:—I desire to call the attention of the bee-keepers of the State of Illinois to the necessity of helping the passage of the Bills which are now before the Legislature of the State in the interest of bee-culture, as follows:

A Bill making an appropriation for the Illinois State Bee-Keepers' Association.

A Bill providing for the appointment of a State Inspector of Apiaries, and prescribing his powers and duties.

A Bill to prevent the spraying of fruit-bloom.

The first of these Bills passed the Legislature before, and all that is needed is a renewal of the same Bill, in the same way that Bills are passed for the support of the State Agricultural and Horticultural Associations. The appropriations formerly granted have given our State Secretary, Mr. Stone, an opportunity of spreading information on bee-culture, and have made our State Bee-Keepers' Association a permanent institution; besides enabling us actively to fight foul brood.

The second Bill is needed to give power to the State Inspector of Apiaries, who has been thus far employed by the State Association, and has done very good work in the destruction of foul brood, but might be handicapped if it became necessary to destroy diseased colonies of ignorant or recalcitrant apiarists. It is also needed to put a penalty on the shipping or selling of diseased colonies of bees. The proposed law is almost a duplicate of the Wisconsin foul brood law. Twelve States, or more, have foul brood laws now, and it is time that Illinois should fall in line with other progressive States on this point. The proposed law had already passed the Senate of the previous General Assembly, but failed in the House, only on account of lack of time. It should pass during this session.

The third Bill is intended to prevent the wholesale poisoning of bees by a misunderstood or misapplied use of tree-spraying. Fruit-trees should be sprayed when the fruit is forming, but the blossoms should be allowed to be fertilized first. In this way the danger to bees, and to those who might eat of the honey, will be avoided, and the spraying will serve its real purpose, that of destroying the insects which prey upon the formed fruit. Spraying just *after* the bloom has fallen is the most advisable, though ill-advised dealers in spraying apparatus often recommend spraying during bloom. This is an injury to the pollen, which often becomes diluted in the poisonous liquid and is rendered inert. So, even if the bees were in no danger, it would be unadvisable for horticulturists to spray before the bloom is out.

Senator Berry, who is one of the leading members of the present General Assembly,

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urges us to use all our influence upon our respective members of the Legislature in recommending the passage of these Bills. So I trust that all of the Illinois readers of the American Bee Journal will write to the Representatives and Senators of their district, asking careful consideration of these measures. All favorable answers to such requests should be forwarded to Mr. James A. Stone, Route 4, Springfield, Ill., in order to put him in possession of all necessary indications.

A concerted action will surely result in success. We are as yet in the infancy of our institutions, and things that seem difficult today will be taken as a matter of course in a few years; but it is only by a united effort that we can get our industry on a good basis, and become recognized as we should be. Help us, boys; and don't delay.

C. P. DADANT,
Chairman Committee on Legislation.

The following is a copy of the proposed law against spraying while in bloom:

AN ACT TO PREVENT THE SPRAYING OF FRUIT-BLOOM.

SEC. 1.—Be it enacted by the people of the State of Illinois represented in the General Assembly, that it shall be unlawful for any one to spray fruit-bloom with any poisonous compound that may endanger the life of the honey-bees that feed upon the nectar of such bloom, or the health of those who eat of the honey produced therefrom.

SEC. 2.—Any person violating the provisions of this Act shall be deemed guilty of a misdemeanor, and shall be fined not less than ten (10) nor more than fifty (50) dollars.

We trust that every bee-keeper in Illinois will write his Representatives and Senator *at once.* As Mr. Dadant well says, it *is united effort* that counts in such matters. All three of the proposed Bills should be passed. We believe they will be if only bee-keepers will do their duty.

Wanted—Oct. 4th, 1906, Number of the American Bee Journal. We are out of that issue, and would appreciate it very much if some of our readers who have it, and do not care to keep it for a complete volume, would mail it to us. We will send either a Queen-Button or 2 of our Souvenir Postal Cards to any one who sends us the Oct. 4th copy in good condition.

Robert B. McCain, a bee-keeper at Oswego, Ill., recently spoke at a Farmers' Institute, and gave such complete satisfaction that his name has been placed on the list of Institute lecturers. Mr. McCain has attended the Chicago-Northwestern conventions during the past few years, and is well known to its members. He expects soon to be prepared also to give stereopticon lectures on bees and bee-keeping.

"The Bee-Master of Warrilow."—Under this title has been issued in London a small book of 64 pages, with 11 really good full-page illustrations. It is by Tickner Edwardes, who poses for what he perhaps really is, a newspaper man with no knowledge of bees. He visits bee-keepers, principally one old man from whom the title of the book is taken, and recounts what he sees and what he is told.

In the main the book is in accord with facts, but sometimes goes rather wild, the imagination of the writer apparently being allowed full play, as where it is said of the workers in spring that had survived the winter:

"Their task of hatching the new spring generation was over: and now, the power of flight denied them, they busied themselves in the work of sentinels at the gate, or in grooming the young bees as they came out for their first adventure into the far world of blossoming clover under the hill."

The honey from the 220 colonies was all extracted at night, for fear of the bees, even compelling the night work of a little company of women to fill jars and paste on labels. It took 3 ar 4 men to do the uncapping, and the extractor was of sufficient capacity to take 25 or 30 combs at a time!

But these flights of imagination are amusing rather than harmful, and much real information may be gained from the book, which is written in delightful style, so that time will be as pleasantly spent in reading this as in reading the most of fiction, and to better advantage.

A Call to Indiana Bee-Keepers.—There will be a meeting of Indiana bee-keepers at Indianapolis, on Feb. 6, 1907, at the State House, in Room 12. One object will be to form a State Association, but the most important business will be the promotion of a foul brood law for that State. There will be a morning and afternoon session, beginning promptly at 10 a.m. The united efforts of Indiana honey-producers are earnestly solicited. It is hoped there may be a large attendance. For further particulars address Walter S. Ponder, Indianapolis, Ind.

Mr. and Mrs. Louis H. Scholl appear in the picture on the first page this week. Those who attended the National Convention will remember meeting them in San Antonio, last November. Mr. Scholl was just recovering from a long and severe illness. Mrs. Scholl was quite well, and as they were married only last summer, they seemed to be still "on their honey-moon." Mr. Scholl is 6 feet 2 inches in height when he feels well and straightens himself up. We think Mrs. Scholl is not so very much shorter than her husband. They are a delightful couple to meet, and both seem to think that Texas is "it."

Of course, our readers feel pretty well acquainted with Mr. Scholl by this time, as he has been conducting "Southern Beedom" for over a year. He says he has lots of "good stuff" on hand for his department, and is determined that the new conductor of "Canadian Beedom" shall not get ahead of him in any way. It remains to be seen just how close a race Mr. Byer will give Mr. Scholl. No doubt the latter can take longer steps than the former, but he may not be able to take them so fast, so Mr. Byer may stand a very good show of keeping up, even if he doesn't get ahead.

It may be that Miss Wilson will say that Mrs. Scholl's picture belongs in "Our Bee-Keeping Sisters'" department. But we didn't like to run the risk of separating her from Mr. Scholl, especially when the two pictures came on one card, which would indicate that the intention was to keep them together.

Mr. and Mrs. Scholl live in New Braunfels, Tex., which, we understand, is almost a section of Germany transplanted in America. The special car of bee-keepers stopped for a minute or two when passing through New Braunfels. We looked for Mr. and Mrs. Scholl, expecting that they would be "at home," but we found that they were already in San Antonio, waiting to receive the Northern bee-keepers there when they should arrive.

John Doll & Son, proprietors of the Minnesota Bee-Keepers' Supply Company, of Minneapolis, Minn., have sent us a very nicely illustrated calendar for 1907. It consists of a heavy card, 8x12 inches in size, on the center of which is a pretty picture showing a road with a bridge over a ravine, entitled, "Through the Woods." Below the picture is the calendar.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

Self-Propelled Vehicles.—A practical treatise on all forms of automobiles, by James E. Homans, A. M., fifth revised edition, entirely rewritten. This popular book fulfills the requirements of the motor vehicle owner, operator and repairer. Price $2.00. Address, Theo. Audel & Co., 63 Fifth Ave., New York, N. Y.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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How to Spend the Bee-Keeper's Winter Months

BY G. M. DOOLITTLE.

Most of bee-keepers seem to think that the winter months allow them to "let loose" of our pursuit, for the bees in winter repose are better left undisturbed. Perhaps the bees are better undisturbed, but the bee-keeper who pays no thought or attention to the subject of apiculture from the time the honey is taken off the hives till the following May, cannot reap the richest harvest from his bees.

During the fall he should know that all of his colonies are in the best shape for wintering, that they have plenty of stores, that they are safely housed, and that nothing has been left undone that will contribute toward their most successful wintering. Then, if the bees are wintering out on the summer stands, they should be allowed to fly whenever any chance occurs through the temperature rising to 45 degrees in the shade, with the air still, and the sun shining. If the hives are buried with snow, or the entrance clogged with ice or dead bees, they should have all of these obstructions removed, for an occasional winter flight is of the greatest advantage. Don't be hanging around the "corner grocery" at such times as this, and, if I say never stay there, only as you have business, I would give expression to the thrifty side of life.

Should the bees in the cellar become uneasy during March, it is generally better to put them out for a flight. And if they can be protected by chaff or other packing, I would recommend leaving them out. Otherwise they would better be returned till the weather is likely to allow their flying as often as once a week. With such frequent flights they will be more likely to come out well, than they will if kept in the cellar till the elms and soft maples bloom, as is generally recommended as the time of final taking out. But so long as they remain quiet in the cellar, I would not disturb them till it is time to take them out for good.

When pollen becomes plenty, examine the bees by lifting the frames of each hive, and if the colonies are weak, it is better to confine the bees, by means of a dummy, to the frames which have brood in them, together with one frame of honey, so as to help them in keeping up the necessary heat for brood-rearing. A queen will lay from 700,000 to 1,000,000 eggs during her lifetime, if she is a good one, and lives from 3 to 5 years; but under the present system of management, the queen is generally coaxed to lay all these eggs in 2 or 3 years.

Of course, the readers of the American Bee Journal all know that bees gather honey, not make it, and the eggs laid by the queen produce bees; consequently the more eggs the queen lays, the more bees we get, and the more bees we have, the more honey they gather.

Then another item comes in right here, which is, that to gather honey to the best advantage, these bees must be on the stage of action just when the flowers are secreting the most nectar. To have a multitude of bees in the hives when there is no honey or nectar in the flowers amounts to nothing. So we must time our work so as to have the queens laying the most prolifically at the suitable time before the honey-flow.

And this brings in another factor: We must know our locality, so that we are conversant with the time of blooming of all of our honey-producing flora; then bring our maximum strength of bees to meet the flow, and in this way we are sure of success, providing the weather is favorable for the secretion of nectar. Of course, we are largely dependent upon Dame Nature for some of these things, but if we fail through thoughtlessness, ignorance or lack of energy on our part, the harvest will be largely a failure, even where Nature supplies all that is necessary for a bountiful harvest.

As soon as the queen has filled with eggs all the combs which were allowed at the time of manipulation above mentioned, more combs must be given, and whether contracted or not, we should see that the bees have plenty of stores at all times, for brood-rearing can not go on at its best where the bees are scrimping their food to the larvæ on account of a shortage of honey, looking toward starvation to the whole colony.

A little before the hives are filled with brood the surplus arangement should be put on, not waiting for the bees to swarm, as some do, for it often happens that many colonies will not swarm at all, but stick right to storing honey all the season through, when the supers are put on at the right time.

Now, in order to do all of these things just when they ought to be done, the hives, supers, etc., should all be put in readiness during the winter months—all ready to put on at a moment's notice during the summer's work; so, as soon as the work of the fall is done up, these things should be looked after, and faithfully attended to till everything is in readiness for the oncoming season. As you complete these things, one after another, store them away in neat and tidy order, so that they will not depreciate by standing, through dust collecting on them, or from the depredations of mice and rats.

If you still have more time, get around the back numbers of the American Bee Journal, and other papers and books on bees, if you have them, and re-read and "post up," and you will be surprised to find how many new thoughts and ideas you will get and find, which escaped your former reading, or else have slipped from your memory since you read them before.

Have a note-book with you when you read, with one or two pages for every month, and as you read jot the thought down under the month for which it is appropriate, and then when summer comes, you will have these things at your "tongue's end," or at your "fingers' tips," ready for use just when they are wanted. Say, if you will do this, you will say that you get double value out of the American Bee Journal, or any other bee-paper or book which you re-read in this way; for new things and new visions will open up and unfold to you which had passed unnoticed before.

Then, if you find out anything new, or can shed any new light on some old subject; in short, if you can add your mite of knowledge to these columns, don't be backward in doing it. No matter if you can't write as well as some, or can't put your thoughts together as you think they ought to be, Editor York is "at the helm," and he can make "the crooked things straight," and the "rough places smooth," for both you and me. Come on, beloveds. Let's make this winter one of great advancement along bee-keeping lines. Borodino, N. Y.

Selling Section-Honey by the Piece, Etc.

BY WM. DUESCHER.

I am not in favor of selling honey by the piece. The "piece-seller" at the convention in Denver, Colo., gave the example of oranges being sold by the piece. It seems to me the largest or heaviest of anything brings, or ought to bring, the highest price. The most of my honey in 1903 weighed from 24 to 26 pounds per case. This should have brought a good price, as every cell was full of honey, but the honey dealers wrote me they get less for such honey.

I use 1¾, 1⅞ and 2-inch sections, and have always bought three kinds of shipping-cases. For years I have packed 1¾-inch sections in 2-inch section-cases, in which they fit better, and which saves me one case in every 6.

PIPING OF QUEENS AND SECOND SWARMS.

In the Bee Journal for Feb. 9, '05, Canadian Bee Journal was asked, "When you put your ear to a hive the evening before a second swarm issues, did you ever hear more than one queen pipe?" The queens pipe 3 days before the second swarm issues. When such a swarm has settled in its new hive, sometimes a queen flies out, followed by bees, but returns and is surely killed. My father

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left the swarm where he hived it until evening, and often found a dead queen before it.

An old way of keeping colonies from robbing is one used by my father long ago. One of his colonies was being robbed by his neighbor's bees. He told him to destroy some of the honey in the brood-frames; that is, cause it to run out. This prevented the robbing, and saved my father's colony.

JOINING THE NATIONAL.

My property here consists of 7 lots, nearly 400 feet long. My bees are no trouble to the neighbors, and I don't expect to need help from the National Bee-Keepers' Association, but I joined it for the benefit of others, thus helping to make it stronger.

REPORTS FOR 1905 AND 1906.

In the spring of 1906 I brought my 36 colonies of bees out of the cellar, all alive. One colony had a very poor queen, which left me 35. I had only 6 first and one second swarm. There was not so much clover as in 1905, as the ice in the spring froze out most of it. Nevertheless, I got 70 pounds of comb-honey per colony, spring count. In 1905 I got 80 pounds per colony, spring count, and so many swarms that I got sick of hiving them and let many go.

On Dec. 1, 1906, I put 34 colonies into the cellar.

Wrightstown, Wis., Jan. 7.

Some Bee-Enemies in New England—Spiders, Etc.

BY ALLEN LATHAM.

Much has appeared of late about ants and their destructiveness to bee-prosperity, and we not infrequently read of the actions of toads, kingbirds, etc., but seldom have I ever read in our bee-periodicals of the worst enemy which our bees have in New England.

Here in New England, except for an occasional toad or "bee-martin," our bees are little molested during the spring and early summer. During those months the colonies hold their own in numbers, and, though the work may be severe, the full force keeps very constant The reason for this is not difficult to find, for most of the enemies of the bee have lived through the preceding winter in the egg form, or else in such small numbers as adults to make small showing. It is when the pests from the eggs have begun to get their growth, or the few adults have become mothers of full-fledged offspring that our bees in New England begin to suffer.

Among these bee-enemies may be mentioned robber-flies, dragon-flies, various bugs, and spiders.

The robber-flies and dragon-flies are not a serious menace to bees in Norwich, though there is no question that many a honey-laden worker falls prey to these insect-tigers.

Among bugs, I know of two sorts that delight over a meal of honey-bee. One is vulgarly known as the "stink-bug"—the well-known bug which frequents ripe berries, and which affords a revelation when taken into the mouth unseen on a luscious raspberry. This true bug, of the genus Capsus, when mature, frequents flowers, and with its powerful beak will pierce the body of the honey-bee which alights near it; and unless the bee is vigorous the bug will suck out the vital juices and leave the dry carcass.

Another bug, of the genus Phymata, is even more serious. This bug is of a peculiar shape, suggestive of the black squash-bug, but more irregular in outline, and it has a wonderfully developed pair of anterior limbs. With these powerful limbs this bug will seize and hold its victim, even though the victim be larger, and suck out its very life. These bugs are very numerous on our fall flowers, and earlier can be found on the thistle blooms.

On our thistles will also be found a spider—so-called crab-spider, family name Thomisidæ—which pushes its body into the blossoms and with its inconspicuous legs extended lies in wait for its prey—a honey-bee. This spider of numerous species is usually colored like the blossom on which it rests.

If this were the only spider which preyed upon the bee we should have occasion for joy, but it happens to be only one of the many sorts which fatten upon bees. Some of these I will briefly mention, and state the amount of their destructiveness.

About the hive there are three kinds to be found at almost any time of the year. One is the ugly, slim-legged, brown-bodied beast hanging in its irregular web along with several (possibly) of its egg-cases. The spider is one of the Theridiidæ, the most numerous of all spider families. This spider is not serious, because its nest is usually in some out-of-the-way corner where only inquisitive robber-bees are likely to become entangled.

But one of the Attidæ unquestionably kills many, many bees, and though I have seen one consuming a bee-moth I have little liking for the beast. This jumping spider builds no web in which to catch her prey, but stalks towards her victim and when within a few inches gives a deadly spring. I once saw a bee spring for the spider at the same instant that the spider sprang for the bee; at any rate, spider killed bee, and bee killed spider. Bite and sting proved equally fatal. The spider is black and white, chunky of body, short of limbs, and moves with quick, jerky motions. Though I love it not, this spider commands my respect, for it is a brave and powerful little huntress. Respect her though I do, I nevertheless crush every one I find about the hives.

The third spider which is common about our hives is, or rather are, for there are two or three species at least which delight to live about the hives—the common, long-legged, hairy spider which builds a flat nest with a tubular den. Doubtless these spiders are of the family Agalenidæ. The female, as is generally true of spiders, is the rapacious one, and the back of her den will show the fragments of many a doomed bee. Sometimes this spider will succeed in spinning her web in the very hive and thus live entirely upon bees. As it is harmful to bees only about the hives it is a rather simple matter to overcome this enemy by tearing down its web and keeping as few nooks and crannies as possible about the hives, especially keeping down all weeds.

During my 5 years of bee-keeping here in Norwich I have wondered at the great loss of field-force after the opening of the fall flow. At first I laid it to the fact that breeding had fallen off during August, and that the bees were simply dying of old age. I still think this to be partly the cause, but only a part, and a small part at that. My suspicions fell upon certain spiders two years ago, and are no longer suspicions but certainties. Two of the round-web spiders, sometimes called geometrical spiders, are beyond any doubt, in my opinion, the cause of immense destruction to bee-life in this vicinity.

Species of Epeiræ, the typical genus of the family Epeiridæ, and Argiope, the black and yellow spider so common about bushes in the fall of the year, are the members of the innumerable spider-life which do untold harm to the prosperity of the bee-hive. It is hardly necessary to describe these spiders, as doubtless they are already recognized. The first, Epeira Vulgaris, and her variously colored sisters, is a huge-bodied, clumsy insect when fully grown. Her round web is known to every one. She stays at home in the center of the web while young, but later builds a den above at one side, by drawing together two or three leaves and binding the same with silk. Here she stays till a victim gets entangled. Down she runs to the center of the web and by means of a telephone developed by her ages before man devised his, she determines where the victim is, and rushes out upon the helpless fly, grasshopper, or bee. Shrouding the prey in silk she cuts it loose from the web, hangs it to one hind foot and "shins up" to her nest to eat it at leisure. This spider is either variously colored, or else there are innumerable species all alike except in color. It is difficult to find two colored exactly alike. Beauties as far as coloring is concerned, they ever attract attention.

Argiope is the long-bodied (abdomen not round as in Epeira) black and yellow spider of the garden. While at rest in her web she brings her legs together into four pairs, two on a side, so that to a near-sighted person she appears to have but four legs. She is always to be found in the center of her circular web, often partly hidden by a peculiar wavy ribbon of silk, which is run across the middle of the web up and down. This spider catches her prey just as does the preceding, but leaves it shrouded where it is caught till hunger calls for it. Thus more than one victim will be seen in the web at once. A favorite locality with these spiders is a clump of goldenrod.

I firmly believe that these two spiders, especially the last-described one, cause the death of two-thirds of the field-force of all the colonies about here during the fall flow.

One has only to walk through the fields in mid-September and see what is to be seen. I have noted no less than 25 of these circular webs about the goldenrod on a plot of ground which

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would not equal a square rod. And in each of these webs at any time during the middle and latter part of the day will be seen from one to 3 shrouded bees. When one considers that bees must range over thousands of such square rods he soon realizes that the 50 dead bees on the square rod noted quickly mounts into many thousands.

The late fall was a remarkable one here both for abundance of bloom, and the many days of favorable weather for nectar-gathering. In Massachusetts, where I used to keep bees, I could surely have counted on a very fair surplus, from all strong colonies. I got no surplus, and many colonies of average strength only a moderate supply for winter. To be sure, brood-rearing was not active in August, and much of the field-force consisted of old bees, but that would not account for colonies strong enough to cover 10 frames, and to be in the sections also dropping down in 10 days to insufficient numbers to cover 5 frames of comb.

Before the season was half over, only those colonies which had happened to breed heavily right up to the flow continued to gather much surplus. So I know that hundreds of thousands of my bees fell victims to those voracious spiders, and I have not the slightest doubt that those spiders cost me hundreds, possibly thousands, of pounds of surplus. As it was, the strongest colony put in about 60 pounds of fall honey. This colony had two sets of brood-combs. Knowing the cause of the failure in producing surplus honey, I am seriously considering hiring boys to go out on the war-path against these spiders. It so happens that Argiope builds her nest of eggs right near her old web, and it is easy to find. To find it and destroy it means the destruction of two or three hundred prospective offspring. The nest is circular, about the size of a large cherry, and hangs suspended in open view all through the winter. I am thinking of hiring boys to gather the nests by the dozen or hundred.

These spiders are never noticed in spring and early summer, and only as they grow towards maturity do they become a menace to apiculture. Thus our bees hold their own in numbers through the summer months, but go off rapidly in the fall months.

I recognize the spider as holding a useful place in Nature, but I should be pleased to see her numbers grow less in this part of **Connecticut.**

Norwich, Conn.

Uses of Honey in Foods and Remedies

TRANSLATED BY C. P. DADANT.

The Paris bee-paper, "L'apiculture Nouvelle," quotes the following from a small pamphlet by a French author, Mr. C. Moulin:

The scientific men tell us that honey is an almost complete aliment, very beneficial to man's body, and very easy to digest, because contrary to sugar, it does not need to be transformed in order to be assimilated; because, like sugar, and without having any of the disadvantages of sugar, and under a small volume, it restores the strength of a fatigued man who still has to perform muscular labor before being able to take food and rest; because, being slightly laxative and diuretic, it helps the functions of the intestines, and of the kidneys, and through this the elimination of used-up substances which are in the organs. This is important with sick people, in whom these functions are often inactive and are yet needed to eliminate the cause of disease.

So honey is much preferable to sugar to sweeten the herb-teas; a single spoonful of honey diluted in a cup of hot water constitutes what might be called a "tea-of-a-thousand-bloom," for the bees have visited even a greater number of them to harvest it. It is an excellent excipient for all medicines, and for this reason is much employed in pharmacy, especially for veterinary medicines.

It contains formic acid—a very antiseptic substance; that is to say, a substance which destroys many ferments and several sorts of microbes; for that reason it was formerly employed a great deal to cure eye-soreness, cuts, scratches, burns and small wounds, and the Romans employed it to embalm the dead, by putting in honey the bodies they wished to transport to a distance.

For the eyes I have devised a mixture of equal parts of rose-water and choice honey, which cured many persons suffering from cold draughts, bruises, irritation of the eye-lids or benign opthalmy; for recent wounds, scratches, cuts and burns of a light form. I have manufactured an ointment which I call the "apiarist's salve," by mixing thoroughly, over a *bain-marie,* one part of fresh propolis, 2 parts of white beeswax, and 7 parts of honey. Applied with carbolated cotton wadding; this runs less than pure honey, covers the sore better, and better prevents the access of ferments, of microbes suspended in the air, or of the air itself, of which the oxygen is the great disintegrating agent in nature.

A physician of my friends has stated to me that he has cured stubborn cases of constipation upon several of his clients by making them take, every evening, a large spoonful of honey, when going to bed, sometimes for several months together; that this has succeeded fully as well as sending them to Switzerland, to be cured with buttermilk, or to the South or to Italy to be cured by eating grapes and figs, and that this honey-cure may be practiced in any season of the year.

Doctor Pauchet, of Arcachon, substitutes, to cod liver oil, the "butiromiel" composed of 2 parts of fresh butter and one part of honey, mixed and whipped together, which makes a sort of cream, and is used without repugnance by his patients, and produces upon them the same results, approximately, he says.

Doctor Boudard, physician in the Navy, at Marseilles, has stated to me that he and several of his colleagues have relieved many persons afflicted with nervous debility, neurasthenia and other nervous affections that prevented them from sleeping, by advising them to eat but little at their evening meal, and take 2 or 3 tablespoonfuls of honey when retiring.

I must stop, for it would take two more pages to give briefly all that I have been told by doctors, or that I have read in scientific works, on the benefits of honey for the health.

I have been a bee-keeper for 18 years, thanks to the numerous learned works that I have read and re-read and commented upon during an entire winter, and it is now 15 years since I have begun, owing to the above-mentioned reasons, to try to make proselytes in apiculture, and to hunt new uses for honey. I am satisfied that the more men will consume of this beneficent manna, which the industrious bees harvest everywhere, the more healthy they will be.

The most satisfactory and most useful preparations I have devised are syrups of honey, which are not so limpid as those found in commerce, but are much more salubrious. I make these by mixing a quart of water with 8 pounds of honey, which I heat *au bain-marie* (over hot water) and skim. If I incorporate in the syrup from 50 to 100 drops of essence of eucalyptus per quart, it gives me a eucalyptus syrup with which I cured rapidly a great number of persons suffering from colds, hoarseness, sore throats and slight attacks of bronchitis, by directing them to use half a pint of this syrup, which they must take in tablespoonful doses with a tea made of basswood blossoms or orange leaves, according to the case; and I relieved a number of others having chronic affections of the respiratory organs, such as catarrh or asthma.

If instead of essence of eucalyptus I use in the syrup of honey the same quantity of essence of mint, it becomes suitable, in doses of a tablespoonful in a cup of hot water, to help weak stomachs, or prevent indigestion in persons whose digestion is accidentally bad; if I use essence of anise-seed it becomes antiflatulent. If I use essence of pine-apple or of raspberries, etc., or, better yet, if I use, instead of water to make the syrup, the same proportion of well-filtered juice of currants, raspberries, cherries, etc., I have a syrup which in hot weather makes a splendid preparation for seltzer or soda-water, or other mineral water.

I manufacture pastes similar to jujube-paste, which I also cut into small squares or lozenges. Melt in an enameled skillet, over a *bain-marie,* 2 ounces of gelatin with 3 ounces of water. When by stirring you have brought the gelatin to the consistency of a soft dough, still stirring briskly, pour into it slowly about 14 ounces of honey which has been previously heated also *au bain-marie;* when the parts are thoroughly mixed, pour it into a paste mould, or into a flat dish which has been lubricated with choice olive-oil. If before pouring out we incorporate, into the paste, essences of either eucalyptus, mint or anise-seed, in the proportion of 50 drops per 2 pounds, it acquires the same properties as the syrups, according to the essence used, and I sometimes color diversely both pastes and syrups for the trade of confectioners and dealers.

If I incorporate into the paste from 8 to 12 ounces of cocoa, and a little vanilla, I call it "cocoa-honey," and I pour

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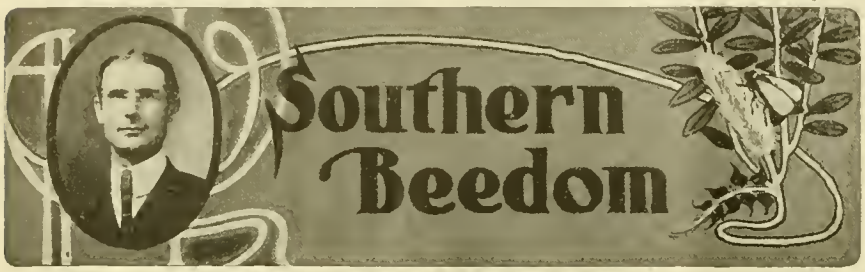
it into chocolate moulds. It then resembles chocolate, by taste, appearance, and preserving qualities, and may be used in the same way, either as a dainty or with milk or water at the breakfast table.

By simply mixing one part of the cocoa with 2 parts of honey and a little vanilla, we secure a paste which may be preserved for several months, in a jar, and may be used in a similar way. A mixture of one part of sweet almonds and a few bitter almonds crushed, with two parts of honey, makes a delicate almond-cake paste.

I have succeeded, but moderately, in making honey-pastry, but I have secured some delicious dishes, such as chestnuts and honey. I first remove the outer shell, then bake them with steam or very little water, then removing the second peel and the diaphragm, I roll them in honey scented with vanilla, while hot, and then in this way I have a dish much resembling the highly-prized iced-chestnuts.

I dedicate this little essay to the kind and lovely women who are the natural nurses and usual housekeepers of the homes, and are very much more intelligent and much more expert than ourselves in the preparation of all these little dainties. C. MOULIN.



Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

Hand-Shake to the "New Man."

So a new man takes Mr. Pettit's place "at" "Canadian Beedom." We learn that he is not so tall as his predecessor, so there's no fear of one fellow losing his place on the staff as being the "tallest," anyhow. Sorry Mr. Pettit leaves us. Good luck to him in whatever he now undertakes. To the "new man," a hearty shake.

Lighting a Smoker with a Gun

W. F. McCready, of Florida, gives the following "hint on lighting smokers":

"I arrived at the out-apiary with a gun, but no matches; took the lead and part of the powder out of a charge, and fired the balance of loose powder into a rag-filled smoker, and instantly had it thoroughly lighted, without the trouble of going to the nearest neighbor for 'a light.'"

This is quite a novel way, but it may "come in handy" for "us Texans," especially since our guns generally accompany us on our trips to the apiaries.

Several times have I arrived at apiaries to find that "the light" was left at home, and not a match within a mile of the apiary. It is better, though, to have a large dry-goods box with a hinged cover, and this covered with tin, in each apiary. The box is fitted with shelves for many things generally used in the apiary, and a small, tight tin-can full of matches is one of these.

L. B. Smith, Bee-Keeper

Mr. L. B. Smith was born March 13, 1858, in Pontotoc Co., Miss. That year his father moved to Bosque Co., Tex., to what was then known as "The Wild and Woolly West," as at that time the Red Man roamed at large almost unrestricted. There his father engaged in farming in a small way; and there "L. B." manifested his first interest for the busy little bee, or we might say showed the talent of an inborn bee-keeper. His parents say he would sit for hours and watch the bees

L. B. SMITH.

come and go from the old log and box gums. When only 7 years old he successfully hived his first swarm of bees, taking them down from a limb of a very tall tree. He also followed an absconding swarm (that chanced to leave his father's primitive apiary), and located them in a hollow tree, one mile from home. He was alone, but his enthusiastic love and great desire to capture and save the bees overcame his childish prudence, and he took chances on being shot down or captured by the wild Indians that were then depredating the country.

We next find "L. B." in Johnson Co., Tex., where his father had moved with the hopes of at least being free from the peril that constantly threatened his family, and the losses he sustained from the red man; and also he hoped to find schools more plentiful. But, alas! in the earlier days of Texas many a youth that might have developed into brilliant manhood grew up like "L. B.," with a very meager education, and lived to regret that an educational opportunity never presented itself.

Mr. Smith has been married twice, and says he owes what little education he has to his first dear wife and her sister—the writer of these lines. He married while just a boy in his "teens," and how vividly the picture stands out before me, of a little vine-wreathed cottage with gay flowers nodding to the breezes, interspersed here and there with a busy colony of bees, and the fair girl-wife reading some periodical on bees, and the boy husband listening and gazing intently at his much-loved pets.

It was in 1881 he saw some frame hives, and becoming much interested in them the farmer kindly loaned him one, as a pattern to make others by. He soon had his bees transferred into frame hives, and subscribed for the American Bee Journal, Gleanings, etc. Nothing escaped his eyes pertaining to bees. He eagerly read every line obtainable on the subject. He lived to learn.

While his education is quite limited, his knowledge of bee-culture is extensive, and I might be safe in saying there is no man in the great State of Texas that has written more letters, and answered more questions in regard to bee-culture, than has L. B. Smith. He says, "I believe if the sheets of paper were layed end to end that I have written on this subject, they would reach quite across the State.

Notwithstanding his style of writing, he has written many articles for the various bee-papers, and today is employed to write for two of the leading ones, which shows that his teachings on apiculture are thoroughly practical and sound. He has several times been offered a neat little sum to conduct a bee-department in the various newspapers, of this and other States, all of which was refused on account of lack of time, education, etc.

Perhaps there is no better informed bee-man in our State than Mr. Smith. Having spent 25 years in search of apiarian knowledge, his enthusiasm on the subject amounts almost to a craze. There are but few books and papers that he is not perfectly familiar with.

He is a strong believer in the Langstroth hive and frame, and the good old 3-banded imported Italian bees, but says he is sure there is more in the location and management, than there is in either the kind of bees or hives; that he could take any of the frame hives in practical use today and make a success of bees in a good locality.

He has never kept bees in large num-

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bers, usually keeping from 150 to 175 colonies, and tries to keep from 40 to 50 colonies in each yard. He has never been able to secure the large yields of 400 and 500 pounds of honey to the colony that some report, his best yields being only about 100 pounds to the colony, of extracted honey, and 50 to 75 pounds of comb honey. He has produced many tons of honey in the past 20 years, and has always found a ready sale for it.

Mr. Smith never runs after new fads and fancies in the way of so-called improvements in hives and other fixtures for the apiary, always leaving that for the "other fellow" to test. Yet he is not so "set" in his ways and manner of working that he is not willing to adopt the plans and ideas of others when they are shown to possess real merit.

He is neither saint nor plebian, but his integrity stands above reproach. He was reared by Baptist parents, belongs to no church, but inclines to the Christian faith. Owing to his jolly disposition and great love of music, he has always been a favorite among the young people, entertaining them for hours with the sweet strains from his violin. He loves Nature in all her charms, nothing delighting him more than a lonely stroll on a balmy spring day among the wild flowers and budding branches, watching the tiny bee gather the pollen, and listening to the warbles of the merry songsters as they flit here and there among the lofty branches that sway above the silvery stream—the Rio Colorado—near his home.

(Mrs.) Sallie Oliver.

Summer Weather in January

We are having peculiar weather here in the South. It is the middle of January, and the thermometer registers 80 degrees Fahr., today—real summer heat. Roses, violets, and carnations are in full bloom in the gardens, and some wild flowers are to be seen in sheltered spots. Occasionally a fruit-tree is covered with flowers, and bees hum about them. We are sleeping with windows open. There have been only a few frosty nights this winter, but cold weather may yet be expected during the next 2 months. However, I shall not venture to predict the weather.

There is an old saying here in Texas that amused some of our Northern delegates to the San Antonio National Convention last fall. Some of them naively tried to "predict" the weather, not *aware* however that they were in "Texas." The saying is something like this—and you may know how some of them felt about their predictions when they heard it: "A Texan never tries to predict the weather, because it is impossible to tell anything about Texas weather," or what it is going to do. So if you hear anybody predicting the weather in Texas, you may put him down as being one of two things—either he is a stranger or he is a fool.

The above fact as regards our disability to know more about our weather is quite a factor, and of interest to the bee-keeper. Could we know more about our changes of weather beforehand, or could we foretell the season to a better extent, it would help us to profit much by it. We could plan accordingly. Instead, we are left "guessing" most of the time, and left to "take our chances." This, I believe, is more true of Texas than other States.

Conducted by Emma M. Wilson, Marengo, Ill.

Beeswax for Floor-Polish

As a wax-polish for floors, the Irish Bee Journal gives the following:

Cut the beeswax into thin shavings, cover with turpentine, let it stand 12 hours, stir up with a stick, adding turpentine until the mixture is thin like ordinary cream. Apply it in small quantity, and polish with flannel.

Bee-Keepers—Transient and Permanent

"Leafless trees and meadows bare
Show the work of autumn air."

Ever since attempting out-apiaries I have found it imperative to keep a horse and conveyance of some kind. Having these, and realizing that many of those compelled to deny themselves of such privileges enjoy a ride even more than I do, I frequently make it a point to give such a treat in the way of a short trip over the country. Among others, a certain little girl delights to accompany me. Little worth notice escapes her bright eyes She has made herself well acquainted with the birds'-nests in trees, hedges, brush, and weeds all along the highway.

By being acquainted, I mean she knows their history from the laying of the first straws to the finishing touches of the lining with soft material for the reception of the delicate eggs, and, later on, the tender young. From the completion of the nests on, she anxiously watches and anticipates the time for the birdlings to take their first lessons in flying. She knows the names of different trees and plants, their time and duration of blooming, the quantity and quality of honey which may be expected of them, perhaps much better than many would-be bee-keepers.

Her innocent prattle along the homeward stretch diverts one's mind from tired and worn feelings, and in forgetting them one is amply repaid for any little extra trouble it has been to give her the outing.

Recently, as the many-colored leaves came scurrying down over us, I asked her if autumn was not the most beautiful of seasons? She replied, with not a little awe, combined with evident distress and much concern, "Oh, no; don't you see the trees are almost bald-headed?"

In so many cases bee-keepers prove to be most ardent lovers of Nature that the questions, "Are Nature lovers" the more likely to become bee-keepers, or is it because they are bee-keepers they are compelled to be devotees of Nature? are forced upon me.

It is quite easy to imagine the commercial bee-keeper so busy that the beauty so lavishly spread all around him is lost, or to no purpose; but with the average bee-keeper this constitutes one of the principal charms connected with the pursuit.

Right here we have two distinct classes of bee-keepers—those who are in the business for the love of it, and those who are in it for the dollars it brings. Quite a task lies ahead of him who would enumerate *all* the different kinds of bee-keepers, and I do not propose to attempt it, but the following are a few of them:

Male and female, white, yellow, black, and I may add "green." (Of course, there's no one going to take offence, because only the jocularly inclined, and those farthest from it, are going to be willing to acknowledge they are in the latter class.) But to return to our list: The aged and young bee-keeper; the amateur and the professional; the small bee-keeper with his mere handful of colonies, and the extensive one with his thousands of colonies; the ambitious enthusiast and the aimless stupid; the successful and the unsuccessful; those who are bee-keepers for the fun of it, and those who must needs be in earnest. All these, and many more kinds, may be classed under "transient and permanent." The former a sort o' "thorn in the flesh" of the fraternity, and the latter its "bone and sinew."

The shedding of the leaves and the decay of vegetation brings desolate, neglected apiaries of the former to light, and how very prominent they do stand out—a disgrace to their owners, and, for that matter, a disgrace to the whole following. 'Tis plain to see these are they who are on the lookout for something for nothing, and, finding naught but disappointment, are eager to cry down the whole business as a fake and a humbug. They belong to that rapidly growing class who search the newspapers and periodicals for the flaming advertisements which announce "free offers," and repeatedly grasp at the alluring promises, much

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the same as does the drowning man at a straw.

The post-office department at Washington is ever on the alert to protect the people, and is constantly combatting and extinguishing frauds; but new ways and means are as constantly devised to catch the unwary, who are seeking something for nothing, and the army of victimized innocents grows no smaller. How slow they are to learn that a scoundrel will exercise more ingenuity and more energy in beating another out of a few cents than would be required to make more than as many dollars in a legitimate pursuit. These rogues are watching on the one hand for a "rake off," and on the other making sure of not being "raked in."

The frantic, though fruitless, following of one *ignis-faluus* after another to their final evanescence, teaches no lesson, but rather seems to add fuel to the flame of excitement, until the habit becomes a fixed one, and the appearance of a flickering light in a new location is but the signal for the beginning of renewed chase. Poverty would be known only as a myth, and the world would be overflowed with plenty, were all the efforts which are made to get something for nothing turned to practical pursuits.

It is quite easy to make a fool of one's self, but none of us ever fool Nature into giving us more than we have earned by honest endeavor.

While marketing honey the seller is frequently greeted with, "You can take much less than you are asking for your honey," or remarks of similar import, "because you get it for nothing." But woe unto the man and woman who starts in the business harboring such false notions; the awakening to the truth will stagger them; and if in addition they coddle themselves into the belief that "there's millions in it," they will get a hard fall. The person who satisfies himself or herself with slack methods, or, rather, a lack of method, will in the final round-up find the most dissatisfaction.

I recently read of a banker who refused to lend money to the farmer that permitted his implements and machinery to remain outdoors, subject to the ravages of the elements; and the bee-keeper who allows his capital stock to lie around loose and unprotected deserves no better treatment. To expect exturns from bee-keeping that can cope with such drainage is unreasonable. Such habits might almost be termed "criminal carelessness," as the loss therefrom is often most keenly felt by the dependent family.

These are they whose banners bear the legend, "Hard times," and, indeed, the desolate, neglected apiaries belonging to such, cry "hard times" more emphatically than the owners thereof. While we deeply regret that the transient bee-keeper is not awake to his opportunities (hence is of a necessity transient), we comfort ourselves with the reflection that the number of the unconcerned within our ranks is no greater than is to be found in connection with other vocations; and that we have hosts who are making the most of their opportunities, and are appreciative and thankful—

> "Not only for this present store
> In winter storm and blight,
> But for the hope that asks for more,
> And sees that more in sight."

These latter are our permanent bee-keepers, of whom we are all so justly proud, and who, when they fall down, do not stop to "cry over spilled milk," but are up and at it again as if the thought of defeat were not to be entertained for a moment. The inscription on their banners requires but one more little letter, but instead of a frowning, repellent one, it is smiling and attractive. It reads, "PROSPERITY."

As an industry, bee-keeping owes its very existence to these undaunted stalwarts. The pioneers deserve, of course, the more credit, but there are those among us who are valiantly fighting our battles, and have already earned bright laurels. Why wait until they have passed to the Beyond before we offer flowers? For them we will need to set up no memorials, for, truly, by their works shall they be known.

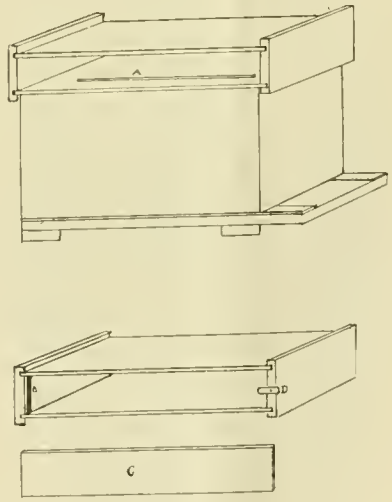
(MRS.) MARY E. NULL.

Miami, Mo.

Conducted by E. L. BYER, Markham, Ont.

Combined Hive-Cover and Bee-Feeder

Here is a drawing of cover and feeder combined. It is an ordinary double-walled cover, but there is a space of 2 inches between the two walls. The crack A in the lower wall is about ⅝-inch wide. This is to allow the bees access to feed, and is about 2 inches in from the side of the cover, which is permanently closed.



COMBINED HIVE-COVER AND BEE-FEEEER.

The second drawing shows the other side of the cover, which is closed by the door C. This door is a piece of ½-inch stuff, one end of which fits into groove B. The other end of the door goes against a little block on the inside of the end of the cover, and is secured by a button D.

The feeder is a common dripping pan of any size, about 1¾ inches deep. To feed, simply fill the pan, and slide it into the chamber, being careful not to shove it over crack A.

This is an excellent thing to feed in at any season. It is not necessary to break the cover loose after it is sealed, or in any way to disturb the bees. If it is properly made it is nearly air-tight, and is not a cold place for bees to go at any time. I believe that bees may be fed with this feeder in weather which would prohibit feeding with any other kind.

Some may object to the extra cost of this cover, but there is little more material in it than in other double covers. When cost of feeders is considered, this is really a cheaper arrangement. Besides, this feeder is always on the hive, and ready for use.

Ontario, Dec. 26. H. A. SMITH.

Truly, it might be said, Of the making of *feeders* there is no end. Some are good, some bad, and others indifferent. From the description given by Mr. Smith, I don't know but that his feeder deserves to be placed in the first-named class. No doubt it would be good for stimulative feeding, and it certainly is so designed that with its use the danger of robbing would be reduced to a minimum, as there would be no excuse for spilling the syrup, or in any way exposing it to other bees than those for which it was intended.

One objection, if such it can be called, to the Alexander feeder, is the fact that all bottom-boards and hive-stands have to be nicely adjusted, otherwise there will be trouble. I am sorry to say that in my yards the hive-stands are not always *nicely adjusted*, therefore the Alexander feeder does not meet with favor in my eyes. With Mr. Smith's feeder that objection is not present, and to those who practise stimulative feeding, it should be worth a trial, at least.

I would be inclined to think that in

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cool weather the bees would be slow to come up through that ⅜-inch opening, but as Mr. Smith intimates that such is not the case, I am willing to withhold judgment until others have tested the matter.

As it seems winter feeding is becoming quite *common*, even if it is not popular; and as some may happen to have colonies which they know are short of stores, while the "feeder" subject is under discussion, I thought it might be wise to submit the following from the Farmers' Advocate. I happen to be well acquainted with the writer of the article, and know him as one of Ontario's brighest of bee-keepers—in short, *a hustler*. It is needless to say that anything from the pen of "E. G. H.," I always read with interest. Here is the article referred to:

FEEDING BEES IN WINTER.

While all bees should long before this time of the year be snugly tucked away in their winter quarters, with plenty of honey within their reach to carry them through until spring, there are almost sure to be a few colonies here and there which, from one cause or another, have entered the winter "light in stores," and, unless something be done to help them, will starve to death before the winter is over. Perhaps their owner neglected them in the early fall, thinking he would have more time to attend to them later on, or the bees may have become the property, late in the season, of some person who knew nothing of their requirements, and has only very lately become aware of their condition. In either case, the bees must have feed given them, if they are to be brought through the winter.

If the owner of the hungry bees has any combs full of honey in his possession, and the combs on which the bees are wintering are of the movable variety, his best plan is to remove a comb from near the outer side of the hive (if this can be done without breaking the cluster of bees), and to put a full comb in place of the empty one, getting it as near the bees as possible. If the comb can not be gotten into the hive, the next best plan is to lay it flat on top of the frames, placing a couple of narrow strips of wood under it to hold it up from the frames half an inch or so, so that the bees may get at all the underside of it. When the bees have emptied the underside, turn it over; and when both sides are empty remove it and place on another full one.

If no combs of honey are to be had, it will be necessary to make what is known as "hard candy" for the bees. If well made, this candy will winter the bees just as successfully as honey will. To make the candy, place granulated sugar in a vessel and add a little water—just enough to slightly wet the sugar. Melt it on the stove and boil it until it will become hard and white when taken from the stove and allowed to cool. Stir it more or less while boiling. To tell when it is "done," test it occasionally by taking a little from the stove and stirring it on a dish until cold. When it cools hard, smooth, white and dry, it is all right. When it reaches this stage, remove it from the stove and stir while cooling. If not stirred it will harden like taffy instead of like candy, and will daub the bees when they eat it.

When it has cooled to the point where it will just nicely pour, it should be poured into dishes or pans that will make cakes of convenient size for laying on top of the frames of the hive. These cakes are laid on the frames in the same manner as the combs spoken of above. About 10 or 15 pounds of this candy should suffice for an ordinary colony of bees, but they should be examined again early in the spring and given more if they are in anyway nearly out.

The principal thing to be careful of in making hard candy is not to let it get burnt. The least sign of burning renders it unfit for bee-food, and it will kill them if given to them. Better make a small lot first to learn how.

After the bees have been given honey or candy, they should be covered up well with chaff or leaves if wintered outside, and should then be left severely alone until there is reason to believe their supply of food may be nearly exhausted.

Feeding bees in cold weather is only making the best of a bad job, but if you find yourself with the bad job on your hands, it is better to make the best of it than not to make anything of it; and bees wintered on candy are just as good, other things being equal, as any other bees, and are worth a good deal more than bees that starve to death in February. E. G. H.

Report of the Ontario, Canada, Convention

REPORTED BY MORLEY PETTIT.

[Continued from page 53]

SPRING MANAGEMENT OF BEES

Spring management is a very important part of bee-keeping and the writer will not be able to do it justice.

Spring management depends so much upon fall management that you will not objeet, I hope, to a few remarks on that subject: Every hive should have a good queen and not less than 40 pounds of good honey when put into winter quarters; then if properly protected during the long winter, spring feeding will not be necessary. Feeding in spring is a disagreeable job for the bee-keeper, and you can not fuss around a hive at any time of the year without annoying the bees, more especially at this season.

Suppose a bee-keeper has about 100 colonies, part having been wintered on the summer stands, the balance in a good cellar; if proper protection and ventilation have been provided for, and the hives left outdoors, there is no need to touch them till we are having nice days in April; about that time those wintered in the cellar may be taken out, but a great deal depends upon the season, some seasons being very much later than others. A good time for removal from the cellar, if the bees can be kept quiet, is when the first pollen is coming on; then choose a fine day. The writer has not tried the Alexander plan, and finds no difficulty with bees. Of course, one must be careful not to put too many hives in one place at the start—put a few at one corner of the yard, then the opposite corner, and so on, until all are placed; then take 4 or 5 sheets of newspaper, previously saved for that purpose, and cover the tops of the hives, taking care that no heat can escape. Then when the bees are done flying for the day, close all the entrances as close as possible; this to keep the cold wind and robber-bees out. If the hives on the summer stands have not had paper put under the cushions it should be done now.

In an average season this work should be finished April 12 to 20; then we may expect the first fruit-bloom about the same dates in May; and knowing the bees have plenty of stores it is a good plan to let them alone, except to look out for robbing on a day when the weather is suitable for the job.

About the time the first flowers come out a start should be made to examine the hives, clip the queens, spread or reverse the brood-frames, break a portion of the cappings on the honey, making the bees think they are in clover; when this is being done the bee-keeper should have a book and note the condition of every hive; a record of this kind saves lots of unnecessary opening of hives.

When we get to No. 100 we will probably find 80 per cent will be ready for the honey season, 15 per cent a little light, 2 queens and 3 dead colonies. (The dead ones have been found before the examination, or should have been.) The 80 should be watched closely, making sure that there is enough unsealed honey in the hives, and that the queen has lots of room for breeding. A good plan to treat the 15 that are light is to select say 7 or 8 (according to their strength) of the best of them, take out all empty frames, then go to the lighter ones and take out brood frames and bees, fill out the 7 or 8, making sure you leave the queens in their own hives. The few that are left light can be used to shake swarms on, or anything else the bee-keeper can do with them to the best advantage.

We will suppose this work is finished by, say, May 20; in less than a month the clover season will be on, and upon the care given the bees for the next few weeks largely depends the amount of surplus the bee-keeper will get for his work. Some seasons the bees may fill the hives so full of honey in a few days that the queen is crowded out, then another season the bees will be confined in their hives most of the time, and run short of stores, and the queen will stop laying; to avoid either extreme the bee-keeper must be on hand every day to know what is going on, and apply the remedy. JAS. STORER.

Lindsay, Ont.

"Is it better to give 40 pounds in the fall, or 25 in fall and the balance in the spring?"

Mr. Holtermann—Better feed all in the fall. It may not be safe to have only 25 pounds in the fall. You sometimes

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find colonies that consume an exceptionally large amount of stores, so we should, if anything, err on the side of too much stores.

Mr. Deadman—If wintering in the cellar, we would only have that much more to carry in and out. Twenty-five pounds in the fall is ample to last till we can examine them in the spring. Put the light colonies to one side in putting them out in the spring, and feed *them*.

Mr. Hershiser—How do you feed late?

Mr. McEvoy—Lay oil-cloth over the frames and on this set sealers upside down with sugar syrup. Pack those in the super and they may take down 20 pounds in one night.

INTRODUCING QUEENS.

Mr. McEvoy—Introduce in a folded cage on the comb. Where queens are allowed to eat their way out, they are killed, sometimes; but where introduced on the comb, they are always all right.

"Is it advisable to put new queen in the hive before taking out the old one?"

Mr. Couse—To introduce an imported queen, take away all the brood and eggs, and then introduce the queen to the broodless and queenless bees.

Mr. Holtermann—Simply take out the old queen and put the queen-cage and all right in, and the candy is eaten away and queen introduced.

Mr. Timbers—The bees should be taken out of the cage first, because in many cases the bees in the cage cause the queen to be balled.

Mr. Armstrong removes the queen to his own cage before introducing.

"What is the best time to introduce a queen?"

Mr. McEvoy—In August, unless it is necessary to introduce at some other time. To introduce a queen in a super, shut the bees off from the brood-chamber with a fine screen for 48 hours. Then set the super off on another stand and introduce a queen quite successfully.

Mr. Evans—For introducing leave the cork in the cage for 24 hours, if the colony is strong. Then remove it and let them eat out the candy. If it is a weak colony, take out the cork at once. To introduce valuable queens, it is safer to introduce in a nucleus.

UNFINISHED BUSINESS.

A vote of thanks was tendered Messrs. Holtermann and Holmes.

A tribute was given to William Couse, who has been secretary for 21 years.

Mr. Holtermann—I have known him for 25 years, and always found him sincere in everything. He has served the Association well, and we regret that, so far as he personally is concerned, he is to remove from the office of Secretary.

Mr. Sibbald—I started to work for him when 11 years old. Mr. Couse loves the Association, and dislikes to give it up, though the work is a sacrifice in view of his other work.

Mr. Couse spoke well-chosen words of appreciation, recollecting when D. A. Jones told him he was to be secretary of the Association. His ambition has been to serve the Association to the best of his ability. He has the greatest asset a man can have for the time spent—that is, *friends*. He was fortunate to have had men who always aimed to do the best. He spoke a word of tribute to many of the men who had been President while he was Secretary of the Association.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Getting Straight Brood-Combs

I am new in the bee-business, and find some things I do not understand. I have 5 colonies, 3 from swarms in 1906, and 2 from 1905. They are all in patent 8-frame dovetailed hives except one in a 10-frame hive. I find lots of trouble in changing the frames, or getting them out, for the bees do not build the combs straight. Would it pay me to take out the old combs in the spring and put in full sheets of foundation, mostly worker-comb? Should I put in full sheets of foundation in the new colonies—those just starting? I want to start right, and I depend mostly upon the American Bee Journal and the "A B C of Bee-Culture" for my guides.
PENNSYLVANIA.

ANSWERS.—I think there is no patent on the dovetailed hive. The patent on the movable frame expired some years ago.

Yes, it will pay to have new combs built for the sake of having them movable, but that is probably not necessary. The likelihood is that at least some of your frames can be lifted out, and then by a little cutting you can get the others out, and crowd each comb into its own frame. If you can not do so, you can cut the combs as much as necessary to get them into the frames. A good time to do this is after the bees begin work on fruit-bloom. But I wouldn't put them on frames of foundation till swarming time, and then you can hive all swarms on full sheets of foundation. I have always had my frames full of foundation, and if I had it to do over again I would do the same way again.

Queenless Colony—Making Honey Granulate—Shade for White Hives—Ventilating Hives

1. What is the best to do in spring with a queenless colony that is strong and has plenty of honey?

2. What is the best thing to do with honey to make it granulate? Is it usually shipped in the granulated form?

3. Is shade necessary with large hives painted white, and run for extracted honey, with from 2 to 3 supers to the hive, and good ventilation?

4. Would you advise putting an inch piece between the hive and bottom-board at the sides and back end of hive? ONTARIO.

ANSWERS.—1. First let me tell you what not to do. Don't give it brood from some other colony and have it rear a queen. One reason is, that while it is rearing a queen it will be getting weaker all the while, there being none but comparatively old bees present, and it will be a long time before any young ones will be ready for work. Another reason is, that in early spring you will find so many failures in queen-rearing, and often will succeed only after giving brood the second or third time. Still another reason, and a sufficient one of itself, is that these early-reared queens are very likely to be worthless. There are three things you can do: You can send South for a queen; you can unite with the colony a weak colony having a good queen; or you can break up the colony and distribute combs and bees to other colonies, especially to the weaker ones. If your other colonies are in good condition, and if you are anxious for increase, send for the queen. If you have a weak colony, unite it with the queenless one. Even if you are anxious for increase, this may be better than to send for a queen, as the very weak colony will be very slow about building up, and is not of very much value except for its queen. If you haven't any such weakling, you are pretty sure to have two or more that are under the average, and if you divide the bees among these you will be putting the force where it will do the most good, and will very likely have as many colonies and as many bees in the fall as if you had sent for a queen. You can put a combful of these bees in any hive in the spring without any precaution whatever, as they will unite peaceably.

There is a factor to be considered in the case that may decide in favor of sending off for the queen. It may be that your stock is not up to the mark, and that by sending off you can get a queen of much better quality. In that case the queenless colony gives you the chance.

2. Cold favors granulation; so you may hasten it by keeping in a cool place. Occasional stirring also helps. Probably most of the honey shipped is not granulated; but very much of it becomes granulated before it reaches the consumer, unless pains is taken to reliquefy it.

3. I think not for the bees, although pleasanter for the bee-keeper. It depends a little upon what you mean by good ventilation. I should want a space of at least ¼ inch the entire width in *each* story.

4. I suppose you mean for wintering in cellar. Yes, it is quite important in some way to have plenty of ventilation in the cellar, and if there is no opening for ventilation except the hive-entrance, a strip to raise the hive an inch or more from the bottom-board is a good thing. My bottom-boards are 2 inches deep, and then in summer I fill part of the depth with a sort of rack.

Control of Increase, Introducing Queens, Etc.

Last season I had a fairly good honey crop. The bees wintered without loss. I put out 12 colonies and increased them to 20, the yield of extracted honey being much over 100 pounds from each colony, spring count. But for the American Bee Journal it would not have been half that. I have been doing my best for a few years (with the aid of some of the writers in the American Bee Journal) to

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control increase, but so far without success. In fact, the last season their advice resulted the very opposite. Swarm the bees would, everlastingly.

The advice was, after getting the colonies strong in bees and brood in the spring, to lift the hive from its stand and replace it with another having empty frames, and put a frame of brood and honey with the queen among the empty frames, using a queen-excluder, and then placing the hive with the brood on top.

I did that to the best of my ability, and true the queens filled the under part full of brood again, the brood soon filled the upper part with young bees and some queen-cells. Now the honey-flow was on, and oh, my! swarm they would, and I had to rush to market for empty hives, frames, and foundation, and, when short of these, dump one swarm in upon another, although several days old.

What is your best and simplest plan for controlling increase? You are long-headed, and I put much value on your answers to questions, generally reading them first.

The man from California who was solving the question by letting the bees swarm, and then catching the queen and letting the bees go back, seemed to have it; but that *but*, like all *buts*, counts for much. If we could not find her in the cluster, we would surely catch her by putting the bees through a zinc queen-excluder. It did not seem to me a very simple process—the sifting of a big swarm of bees through a zinc cage. I could see them going in as fast as I got them out, and the queen still out of sight.

Even if I can not learn just how to control increase through the American Bee Journal writers, it has given many good points in producing surplus honey. My showing is always good. It keeps me in line as to how to have strong colonies and little robbing, and good queens and plenty of them.

I keep empty nucleus hives on hand. These hold 2 or 3 frames each, the same size as the regular brood-frames, and whenever I run across a large, good-looking queen-cell in a bright, strong colony, and in the proper place in the frame, I lift it out with adhering bees and put it into the nucleus hive; and by adding a frame of brood ready to hatch, soon there is a queen ready for work and ready to build up a queenless colony, if any is in the apiary.

My way now of introducing these queens to queenless colonies, or putting two or more colonies in one, is a *sure* and *safe* way: I have a board one inch or ⅞ thick, the size of the hive, with a 6-inch piece cut out of the center and covered with wire-cloth, so that no bee can get through. When I want to introduce a queen, I put that board with screen on the hive as a honey-board. Having placed the nucleus with the new queen over the screen for 2 or 3 days, they have now the scent, and I then put the frames with queen below, and all is well, being sure that no queen is below, but if there is they will fight it out all right. With this board I unite any kind of colonies, and no trouble comes from fighting.

We cut off queen-cells. How do you know when the bees are building queen-cells to supersede their old queen? In robbing the colony of cells at that time it may do injury. Are there any signs by which to know?

MINNESOTA.

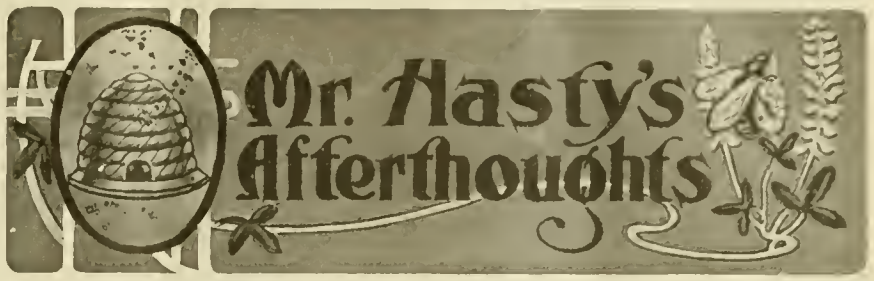
ANSWER.—If you will allow me to commence at the last end of your letter, I will say that it is not easy to be entirely sure whether the starting of queen-cells means swarming or superseding. Generally, however, you can tell by the number of cells. If you can find no more than 2 or 3 cells, and these with eggs in them, you can't tell anything about it. But wait till the larvæ are fairly well advanced, and if only 1 to 3 cells are present, you are pretty safe in saying that superseding is intended.

Your plan of rearing queens and introducing them is good. Some would like it as well or better, instead of having the board with wire-cloth, just to have wire-cloth without any board, as allowing heat to rise more freely.

Now as to the prevention of swarming. You tried the plan of putting the brood over an excluder, and say it was after getting the colony strong in the spring, and then it sounds a little as if the honey-flow came afterward. Just how late you operated is not easy to tell, but it should not be until about the time the bees begin to swarm. You say, also, that you put a frame of brood below. I think that is not the usual way. There should be nothing in the lower story for the queen but starters, full sheets of foundation, or frames of empty comb. It may be worth while for you to try it again, not beginning until you think there is danger of swarming, giving no brood below, and in about a week killing queen-cells in the upper story.

If that fails, try this: As soon as there is danger of swarming, remove the old queen, at the same time destroying queen-cells, if there are any; 9 days later destroy all cells and introduce a queen that has not been laying many days. It would be a sure thing "in this locality," but it's not safe to warrant it everywhere. But I *think* it would not fail you.

Thanks for encouraging words.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

QUEENS AND PICKLED BROOD—STUDYING BEE-DISEASES.

I had forgotten, if I ever knew, that the queen always disappears when the colony has "pickled brood." Important. Don't think we were told that when pickled brood was first described in the journals.

Mr. Getaz may be going it a little too strong, but I guess it's timely and proper to remind our Washington savants that a disease must be studied for some length of time, and *in the hives*, before conclusions can be called sufficiently well-founded. A Government appointment is to be respected; but it doesn't make a man blunder-proof. Page 1032.

"THE UNADORNED FLOWERS."

That's a beautiful editorial from the Toronto Globe, on page 1036—"The Unadorned Flowers." And what a queer circumstance that the Lombardy poplars should all be males—no female or seed-bearing trees ever having been brought over! I imagine that it may be that the female trees spread their branches a little more, and so are not so peculiar as the males, and therefore not so desirable.

HONEY-KNIFE ELECTRICALLY HEATED.

Here is a bow to the electrically-heated honey-knife. Good thing to have something new once in a while to keep us from going to sleep. The picture of it set me to wondering. How *can* a current be sent through a honey-knife blade in such a way as to heat it? In fact, how can it be made to go through it at all? However, I am not trying to suggest that it's a sham. Unless the knife was actually heated it is not likely that it would have been exhibited at an Exposition. But would not gum and candy soon stop the operation of a knife kept hot all the time, with no water applied? And if it must be dipped in water semi-occasionally, what's the advantage over the old hot-water method? Page 1046.

COMBS OF APIS DORSATA.

Be charitable, dear Boss. Might not even the faultless, and slipless, and spotless "Old Reliable" say 5 when it meant to say 6? With that correction, the description of an Apis dorsata comb, on page 1046, agrees pretty well with what we have been told elsewhere. They build a single comb under a horizontal bough; and it eventually gets to be 5 inches thick, and extends along the limb for 5 feet or more. Of course, the extra-deep cells are used only to store honey in. And equally, of course, down where they want to rear brood, the comb thins to twice the length of a worker-bee. Why should a journal be bound to mention every self-evident thing?

MAKING HONEY-VINEGAR AND OTHER VINEGARS.

Yes, sir. We consume vinegar not for the actual amount of acid in it, but for the acid *taste* of it. It's vain for a vinegar to have 4 percent of acid if half of it is neutralized to the taste by the amount of unfermented sweet in it—or do some of us like sweetened vinegar enough better to pay for the loss? The look is that a 2 percent sample unsweetened would serve about the same purpose. We have had a good deal about vinegar lately, and yet C. P. Dadant finds valuable things to say that are not shopworn. Usually the *first* fermentation starts off without anything specially put in to start it; but sometimes total failure comes in right at that point. The example of this given is quite illuminative. Better to put in some crushed grapes at the outset. Idea seems to be that the ferment germs are not all of one species, and that there is such a thing as getting the best or getting the poorest—besides the danger of total failure. Let's have the best. I think it is very common to put sweet water into vinegar that is fully acidulated, or half acidulated. If I get Mr. D. and his authorities aright, that's a very pestilent habit. If you want sweet-

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ened vinegar put in the sweet immediately before using. Strong acetic acid is very repressive of the first fermentation; and if the acid is strong enough, and the sweet pure enough, fermentation may be totally suppressed for an indefinite length of time. I suppose the failure or delay of the second fermentation to start is much more common than in case of the first—that is, alcohol and water is a much more stable compound than sugar and water—so most makers expect to put in something as a starter. (I wonder if putting in the second starter at the outset is not common, and also bad.) And he's all right when he kicks the musty barrel with the charge of being a vinegar-spoiler. Must is one of the most ineradicable of bad things. Don't buy a musty barrel; and don't let your empty barrel get musty. But what can be done if it does? I wonder if taking one head out and thoroughly burning the inside would eradicate, or nearly eradicate it. But then I fear, alas, that the fresh carbon would pull back on the fermentations.

His device for cleaning a merely dirty barrel is tiptop—a piece of chain connected with the outside world by a a long and strong string. Page 1047.

Reports and Experiences

More Than Abundant Rains

We have had, so far, rather more than abundant rains, but rather cool weather with snow, hail, etc. The manzanita is blooming gloriously, and the bees are working on it very actively. PRIL MAX BOELTE.

Moosa, Calif., Jan. 12.

Good Prospects for 1907

This locality did not produce a great amount of honey this year, as a large percent of bees died last winter from bad stores and starvation. Most of those fortunate enough to save their bees got a fair amount of surplus. Most bees went into winter in from good to fair condition. The winter has been favorable so far, and the prospects are very good for a prosperous season in 1907.

H. H. BUCHNER.

Maquoketa, Iowa, Dec. 24.

Observing "How Doth the Bee"

Is this a new race of bees? When coming from the field they deliver their loads of nectar to nurse-bees. What a lot of waste of time to hunt for nurse-bees to deliver their loads of nectar to! Doesn't it make a waste of time? I have observed loaded bees entering the hive so fast that all the nurse-bees would be crammed full in 15 minutes. What, then? All the field-bees would have to take a day off; nothing to do, because all of the nurse-bees were filled full. Shucks! Bees enter their hives and deliver their loads without any assistance from nurse-bees. I have had observation hives, and this is what I saw: A bee would enter the hive, creep up on the comb until above the brood-line, then commence to search for a cell. When found, she would place her tongue at the upper side of the cell with just the tip in honey. When the load was disposed of, she would come outside by the glass and off for more. Now a worker with pollen searches several cells before she finds one to suit, then puts her legs in the cell, rubs her legs together, and, when freed, she leaves for the outside by the glass; and a young worker packs those pellets. But the observer can not see how it's done. I never saw a worker having a load of honey and pollen to deliver at the same time. Nor can I account why a loaded bee should examine different cells until she finds a cell to suit her; but it is so. Get an observation hive and see for yourself, and you will find that I am correct. Nurse-bees are full of honey at all times until they commence to work in the field. E. TUCKER.

Bergen, N. Y., Dec. 17.

Will Italianize Next Season

I received the 3 queens by mail last season in good order, and introduced them successfully. They were all purely mated, as there is not a black bee among their offspring. Although received late in the season, they have their brood-chambers well filled with honey. I noticed when the young Italian bees first take their flying spell, they are much swifter than the blacks and hybrids. December 16 they were carrying in pollen. I have now 175 colonies, which I will requeen from them next spring.

I bought my bees—17 colonies and 36 new hives—from the founder of Maywood Colony, Foster & Woodson, they having put up the money for the late Mr. Osburn, who came from Cuba to start bee-keeping. But Mr. Osburn died the first winter he was here.

JAMES PETERSON.

Corning, Calif., Dec. 19.

Mild Winter and Clover

We are having a very mild winter here so far, as only twice has the temperature gone below zero. Most of the time it has been from 20 to 26 degrees above. There is one inch of snow on the ground now, which makes good wagon-roads.

Isn't it a little dangerous for white clover or will it stand, or hold its own, with the temperature at or above zero and no snow on the ground? L. G. BLAIR.

Boscobel, Wis.

[Yes, there is danger that the clover roots may suffer from extreme cold when the ground is not covered with snow. However, we should think the weather has hardly been cold enough yet in your locality so that it would injure the clover.—EDITOR.]

Bees Wintering All Right

I have 14 colonies of bees wintering on the summer stands, which were all right Dec. 31. Bees did not do well here last season in filling supers, because of severe drouth.

Bay Shore, Mich., Jan. 11. A. M. DEITZ.

Last Winter Hard on Bees

My bees did not do much last summer, and last winter was hard on bees, when most of them died. One man had 40 colonies and lost all but 3; another had 17 and lost all but one; and another had about the same and lost all.

We have 20 colonies this winter, and they seem to be wintering all right. R. CHINN.

Concord, Nebr., Dec. 28, 1906.

A Good Report from Vermont

The past season was as good as I ever saw in this section. I had only 80 colonies; 25 of them were nuclei that I wintered with queens. I got 10,032 pounds of honey—4200 pounds of comb, and the balance extracted. I sold it for $1092. It was all sold, and I had my cash, before Sept. 1. Those nuclei produced just about the same amount of comb honey that the blacks did of extracted. I got no honey after July 20. The Italian colonies were heavy this fall, but I had to feed about $100 worth of sugar to the blacks. I got an increase of 50 colonies, mostly by buying queens. Five of the Italians swarmed that I ran for comb honey. I did not get a swarm from the blacks that I ran for extracted honey.

My bees went into winter quarters heavy; that is, the party that put them in so told me. I have been in the house with rheumatism over two months. I never had it before. I suppose it was because my bees were not quite so rapid on the sting as usual!

C. M. LINCOLN.

West Rupert, Vt., Dec. 31.

Sweet Clover Bloomed Late

I mail some sweet clover that was blossoming around my front yard. We had a cold snap last Wednesday night that froze it, but there was lots of it before that.

A. H. CHELSEY.

Jackson, N. H., Dec. 21.

Bees Moved Far By Rail

In shipping my household goods and live stock in a chartered box-car from Indian Territory to this place, I also packed 10 hives of bees in Langstroth frames. They were clamped to the floor of the car, and considering the long and rough trip of 12 days, they were in good condition when they arrived, perhaps a pint or so of dead bees to the hive. This was the more remarkable, I thought, as the combs are in loose-hanging frames without any side spacer; however, they were all screened and otherwise protected.

This is a fine country, and I am anxious to see how the bees will work.

Selma, Calif., Dec. 15. L. M. LINDLEY.

Honey Failure, But Still Determined

If I had been reading all the bee-papers and all the bee-books this year, and had had my bees in rosewood and mahogany hives, constructed after the highest type of the mechanic's art, and my queens had all been purely bred, golden, 5-banded, long-tongued Italians in their maternal prime; my supers provided with choice, polished No. 1 sections filled with sheets of foundation, "bottom starters," etc., and bait-sections, I would still have been compelled to content myself with "hope deferred," and beeswax, fun, and a few stings. But I suppose it's owing to "locality," and I'll just take my share of the "local" applications and a few more copies of the American Bee Journal.

"PERSE VERANCE."

Harrison Co., Mo., Dec. 12.

No Swarms and No Honey

My bees, the past summer, were all non-swarmers, as I did not get a single swarm from 105 colonies; but the worst of all, I did not get an ounce of honey, either. This is the first failure I have ever had, and I have kept bees since I was 10 years old, and I expect to keep bees as long as I live. It was entirely too wet here for bees. I think all my bees stored enough honey to winter on, but I expect to feed them a lot of "trust" sugar next spring for brood-rearing, as they can not go through until poplar blooms.

I want to tell you how the good old American Bee Journal made, or saved, me $20 last spring. I noticed an advertisement in it, where a certain company offered No. 1 sections at a reduced price; so I wrote for a price on 10,000, and to my surprise I was offered 10,000 strictly No. 1 sections at the very low price of $3.00 per thousand. I ordered the sections, and they were as fine as any I ever bought at $5.00 per thousand. So you can see, at the present price of sections, the American Bee Journal made, or saved, me $20. It pays to be a subscriber to the American Bee Journal. B. T. STONE.

Fellowsville, W. Va., Dec. 17.

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Or, any present regular subscriber to the American Bee Journal whose subscription is paid in advance, can have a copy of Dr. Miller's new book *free as a premium* for sending us **Two New Subscribers** to the Bee Journal for one year with $2.00. This is a magnificent offer, and should be taken advantage of at once. Address all orders to

GEORGE W. YORK & CO.
334 DEARBORN STREET, - CHICAGO, ILL.

QUEENS By uniting swarms from 1000 colonies **NUCLEI**
I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1 frame, $1.25; 2 frame, $1.50; 3-frame, $1.75
4A13t R. M. SPENCER, Nordhoff, Calif.

Mention Bee Journal when writing.

Our Early-Order Discounts on

BEE-SUPPLIES

are now in effect. We furnish EVERYTHING needed in practical Bee-Culture, at lowest prices.

We make the best-finished and substantial

SHIPPING-CASES

in free Shipping-Crates.

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.

Catalogs issued in English or German.

CONVENTION NOTICES.

Minnesota.—The Fillmore County Bee-Keepers' Association will meet in the Court House at Preston, Minn., on Friday and Saturday, Jan. 25 and 26, 1907.

Canton, Minn. P. B. RAMER, Sec.

Colorado.—The 27th annual session of the Colorado State Bee-Keepers' Association will be held in the Chamber of Commerce Building, Denver, Colo., Jan. 22 and 23, 1907. The State Horticultural Association, the State Forestry Association, the Dry Farmers' Congress, the American National Stock Growers' Association, and the Colorado Cattle and Horse Growers' Association, will all hold their annual sessions in Denver during the same week. Besides this there will be the greatest live stock show held in Denver ever west of Chicago. The railroads have made a fare of one and one-third for the round-trip for this week, which should assure us a large attendance. A section-putting-up contest will be a feature of our meeting.

G. J. TOMLIN, Sec.
FRANK RAUCHFUSS, Vice-Pres.

Wisconsin.—The annual meeting of the Wisconsin State Bee-Keepers' Association will be held in the Court House, at Madison, Wednesday and Thursday, Feb. 6 and 7, 1907. Reduced rates on all railroads, but if you cannot obtain them, ask your agent for full fare receipt. By courtesy of Mr. Bacon, of the G. B. Lewis Co., arrangement has been made to have a stenographer in attendance, to take a verbatim report of the entire proceedings, which will be published for the benefit of members and interested bee-keepers. This feature will make this the most interesting convention ever held by the society. The Question-Box will be the main feature, and we want every bee-keeper who has one or more questions of interest to mail them to the Secretary prior to the convention, that they may be properly arranged. Questions may be handed the Secretary at the convention, but mail them prior if possible. We also want a good honey display, so bring your choice samples of honey or anything of interest. Pres. France will speak on the Inspector's Convention in Texas, and Diseases of Bees. Every person may become a member, for one year, by the payment of $1.00, which will also make him a member of the National Bee-Keepers' Association, which alone costs $1.00; and every member of the National, not a member of the State, should pay his dues to the State Secretary, and for the same money, become a member of both. Ladies may become members by the payment of 50 cents for National dues. Kindly make remittance for membership dues before the meeting, to the undersigned.

Augusta, Wis. GUS DITTMER, Sec.

☞ There seems to be a general complaint of poor galvanizing on fence-wire. The complaint has become so general as to attract the attention of the U. S. Department of Agriculture, and they have taken the matter up with the view of investigating conditions and giving practical information from time to time to the fence users. The time was when galvanized fence-wire could be relied on to last several years, but now, in many cases, it begins to rust soon after put up. Kitselman Brothers, of Muncie, Indiana, fence manufacturers, claim to have an improved process of galvanizing wire that adds much to its lasting qualities. They have just issued a 96-page catalog fully describing the above process. Upon request it will be mailed free to all readers of this paper. Please mention the American Bee Journal when writing them.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. FREE—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

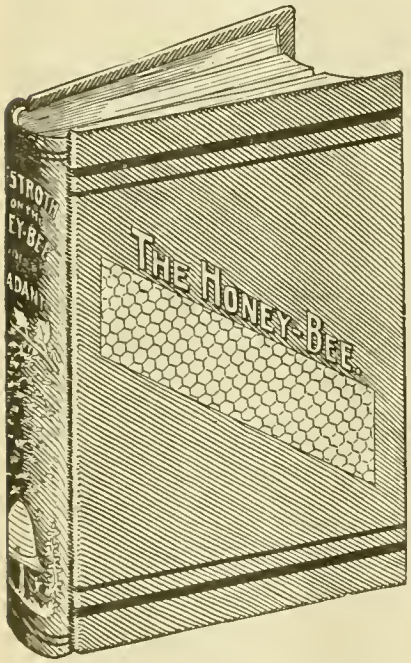
W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

American Bee Journal

Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant. Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.



The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

Please mention Bee Journal when writing advertisers.

TWO YEARS FOR $1.

After a man succeeds in publishing a good journal, the next step is that of getting it into the hands of the people, of getting them to reading it, and becoming acquainted with its merits. This can be done by advertising, sending out sample copies, circulars, etc. All this costs money. I think I am safe in saying that for every new subscriber I have received, I have paid $2.00 in advertising; hence, I have always said that a publisher of a good journal could afford to send his paper one year free for the sake of getting it into new hands. It would cost no more than other forms of advertising, and would be more effective; but, for obvious reasons this plan could not be put into practise; but I am going to come as near to it as I can. I have between 200 and 300 complete sets of back numbers for the present year; and as long as the supply holds out I will send a complete set, and the rest of this year free, to any one who will send me $1.00 for the Review for 1907.

Back numbers of the Review are different from those of newspapers and some journals. The information they contain is just as valuable now as when first published. In an advertisement like this it is impossible to give much description, but I will mention one or two features of each issue of

The Review for 1906

JANUARY.—The key-note of the Review for 1906 is "**THE CONTROL OF INCREASE;**" and Mr. Gill, of Colorado, starts off by telling how he completely and *profitably* controls the increase of 1000 colonies run for comb honey.

FEBRUARY.—R. C. Aikin shows how, with a **knowledge of principles,** increase can be controlled; but perhaps the most valuable contribution to this issue is from R. F. Holtermann, of Canada, describing "Some Short Cuts in the Production of Extracted Honey."

MARCH.—In this issue is illustrated and described the only really successful **non-swarming hive** that has yet been invented. Its inventor, Mr. L. A. Aspinwall, secured an average of 140 pounds of comb honey the past season from fifty colonies, and had no swarms.

APRIL.—The most valuable article in this issue is from C. A. Olmstead, of New York, in which he illustrates and describes a method of **foretelling swarming** without opening the hive.

MAY.—In this issue is begun a series of the most delightfully and beautifully **illustrated sketches** that have ever appeared in the Review—that of the editor's experience in locating and managing three out-apiaries in the wild, picturesque, raspberry region of Northern Michigan.

JUNE.—The article this month on "Control of Increase," is by that veteran, J. E. Crane, of Vermont, and shows how to do the work when the **harvest comes early.** This issue also gives the editor's experience in moving his 400 colonies into Northern Michigan—illustrated with four engravings.

JULY.—This issue has a beautiful full-page illustration of the Review apiary here at Flint (105 colonies), and the editor gives a resume of his work in this apiary for the first six months of the year—showing **where he failed** and why he succeeded.

AUGUST.—In this number the editor tells of "Reaping the Harvest in Northern Michigan," and gives pictures of the different apiaries, some at old **abandoned lumber-camps,** one with a tent for a honey-house, while the reading-matter has an actual flavor of the wild northern woods.

SEPTEMBER.—Of all the articles in this year's Review I doubt if any one is more really helpful than the one in this issue by the editor, entitled "Conveniences in the Production of Extracted Honey." It has several illustrations, and shows how to use bee-escapes without the **back-aching work** of lifting the hives by hand; how to make a honey-knife cut as "slick as a razor;" how to make an uncapping-can for 10 cents; how to arrange a cheap automatic strainer, and run the honey directly into the cans; and how to arrange an electric bell, at a cost of 60 cents, that will ring when the can is full.

Instead of mentioning some of the special features for October, November, and December, let me use the space to say that ONE OF THE GOOD THINGS that will appear in the Review for 1907 will be a series of articles from E. D. Townsend, Michigan's foremost bee-keeper. All of his writings in the past have been fragmentary, a glimpse here and there, and they have been scattered here and there in different journals. Now he is going to write in a consecutive manner, starting at the beginning of the season and going through the year—just as though he were writing a book. It will give his system of management.

Advanced Bee Culture

This is a book of 230 pages, beautifully printed, bound, and illustrated, that discusses bee-keeping from a money point of view—shows how to make a pleasant and profitable BUSINESS out of bee-keeping. Price, $1.20; or, the Review for 1907 (and all of the back numbers of this year free) for only $2.00.

W. Z. HUTCHINSON, Flint, Mich.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
—The—
American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]
Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Dec. 28—The demand for comb honey is only fair with market well supplied; market is almost bare of extracted, however, and the demand very good. We quote: Fancy white comb, 24-section cases, $3.25; No. 1, $3.00; Extracted, white, per pound, 7½@8c; amber, 7@7½c. Beeswax, per pound, 25 cents.
C. C. CLEMONS & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 16.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.
HILDRETH & SEGELKEN.

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3.20; No. 1 light amber, $3; and good No. 2, at $2.80. White extracted, 8@8½c; light amber, 7¾@8c. Beeswax, 26c for clean yellow, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

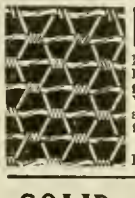
CINCINNATI, Jan. 9—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14½@16c. Extracted amber honey in barrels, 6@7c; fancy light amber in cans, 7@8c; fancy white, 9c. Strictly choice beeswax, 30c, delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

"It is continuous advertising that impresses the public with the stability of a firm."


FENCE *Strongest Made*
Made of **High Carbon** coiled wire. We have no **agents.** Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight.** Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today
COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

EVERGREENS
AT BARGAIN PRICES
For spring planting we offer the following choice varieties assorted as follows:—

	2 Yrs. Old	In. High	
100 Scotch Pine	"	6	$1.00
100 White Pine	"	4-6	1.00
100 Norway Spruce	"	4-6	1.00
100 White Spruce	"	4-6	1.00
100 Ponderosa Pine	"	4-6	1.00
100 Amer. Arbor Vitae	"	4-6	1.00

Bargain price $1.00 per 100 or in 600 lots $5.00 prepaid. These trees are suitable for wind-break purposes or ornamental planting. Also 50 other bargain lots at from $1.00 to $10.00 prepaid. Write for catalogs
D. HILL, Evergreen Specialist, Dundee, Ill.

Mention Bee Journal when writing.

WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
—Catalog Free—
29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

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American Bee Journal

"DADANT'S FOUNDATION"

IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.

Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

DADANT & SONS, Hamilton, Ill.

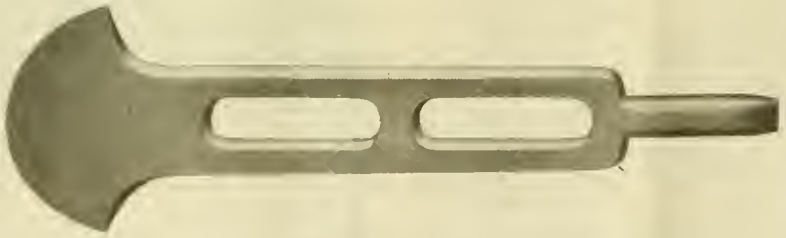
SEND FOR OUR CATALOG

Mention Bee Journal when writing.

Something New—The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



Only 30c. by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

GEORGE W. YORK & CO., 334 Dearborn Street, CHICAGO, ILL.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken

265 & 267 Greenwich Street

NEW YORK, N. Y.

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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

AMERICAN BEE JOURNAL

47th Year CHICAGO, ILL., JAN. 31, 1907 No. 5

W. O. Victor Loading a Car of Bees in Texas for Utah.
(See page 86)

W. O. Victor, of Texas, with an Armful Swarm of Bees.

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do nut send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money haa been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
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52 " 30	"	2000 " ...30	"

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

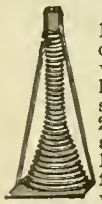
1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the ublishers of the Americaa Bee Journal.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
- CHICAGO, ILL.

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

G. P. Pilling & Son, Philadelphia, Pa.

Please Mention Bee Journal when writing advertisers.

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33. MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like t best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next aeason for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST * POLITICAL * QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, 50 cents for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

Why Not Send Your Friend a Bee-Valentine

THE BEE-KEEPERS' SOUVENIR POSTAL CARDS

are just the thing.

We send them by Return Mail.

As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10 cents (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25 cents. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
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Root's Goods at Root's Prices

Everything used by Bee-Keepers.
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I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

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Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
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Mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

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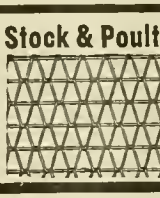

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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
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Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

American Bee Journal

Trade Notes. The A. I. Root Co., Medina, Ohio.

Photographic Competition

We are pleased to announce another series of prizes for the best photographs submitted to us, as described below, in two series, American and Foreign, under thelfollowing conditions:

FIRST.—The competition opens January 15th, and closes October 1st, 1907. All photographs intended for this competition must be in our hands by the last-named date.

SECOND.—Competition for these prizes is limited to bee-keepers or some member of the family. Entries may be made for as many different classes as may be desired.

THIRD.—A photograph entered in one class can not be entered in any other class.

FOURTH.—Each photograph should be marked on the back with the name nnd full address of the sender, nnd the class in which it is entered. This is important.

FIFTH.—In judging the photographs, the general appearance, neatness, etc., of the apiary, or exhibit, or yard, will be taken into consideration. Photos may be sent unmounted. We rather prefer them this way, and in a solio or reddish-brown if possible. However, send such ns you can get most easily.

SIXTH.—With each of the photographs submitted we would like a brief statement of the conditions under which the apiary was photographed or honey produced, or similar information regarding the photograph. This should be limited to about one hundred words.

SEVENTH.—All photographs and correspondence regarding the same should be addressed to Advertisiug Department, GLEANINGS IN BEE CULTURE, Medina, Ohio.

EIGHTH.—We reserve the right to limit the number of awards or withhold any award if no photo worthy is entered in the class.

AMERICAN COMPETITION
(Including Canada and Mexico)
AND
FOREIGN COMPETITION

The following are the classes in which entries may be made:

CLASS A.—Photographs of any apiary in village, town, or city.

CLASS B.—View of an apiary not exceeding six hives in town or city.

CLASS C.—Apiary in town or country of not less than six hives or more than fifty hives.

CLASS D.—Apiary in town or country of fifty hives or more.

CLASS E.—Photograph of comb honey produced by a single colony of bees; not less than ten sections, and this preferably in plain sections.

CLASS F.—Photograph of a bee-keeper's home, showing some view of the apiary if possible. The apiary need not be prominent in the picture, however.

CLASS G.—Photographs of a crop of honey from any number of colonies, six or more.

CLASS H.—Photographs of any apiarian exhibit of bees, supplies, or honey taken at fairs or shows of any kind.

CLASS I.—Photographs of any work in the bee-yard, such as hiving swarms, extracting, or any other operations with the hive.

CLASS J—Photographs of any other subject relating to bee-keeping not classified above.

PRIZES

	Value, Postpaid
FIRST.—One leather-bound "A B C of Bee Culture," 1907 English edition, or cloth-bound French or German	$2.00
SECOND.—One-half leather "A B C of Bee Culture," 1907 English edition	1.75
THIRD.—One "How to Keep Bees" and any two Swarthmore books	1.50
FOURTH.—One full cloth-bound "A B C of Bee Culture," 1907 English edition	1.20
FIFTH.—One "How to Keep Bees," by Anna Botsford Comstock	1.10
SIXTH.—No. 1 bee-veil, all silk	.80
SEVENTH.—No. 2 bee-veil, silk face	.50
EIGHTH.—One illustrated book, "Bee Culture in Foreign Countries"	.50
NINTH.—One Bee Model, Queen	.50
TENTH.—One Bee Model, Drone	.50

Ten prizes are offered for each class: Ten for Class A, Class B, Class C, Class D, etc.—one hundred prizes for American contest, and one hundred prizes for the Foreign contest; two hundred in all if that number of entries are received, the prizes offered being identical for each class for the American competition nnd for the Foreign.

If the winner of any certain prize already has the prize offered, we will, on request from him, furnish a selection of other items from our catalogs, of equal value.

Danzenbaker Prizes

It is to be regretted that so many bee-keepers are satisfied to produce year after year a very ordinary grade of honey as regards its appearance, when by a little more care, and having more suitable fixtures, and by taking the honey from the hive at just the right time, a much larger percentage of "fancy," or "extra fancy" honey could be produced, which would sell at a much higher price. The experience of honey-merchants generally is that there is no difficulty in disposing of large stocks of fancy or extra fancy, even when the market is dull. It is the inferior grades that suffer most at these times. We believe, too, that bee-keepers would be very much better satisfied with their season's work if their best efforts were made to produce a really fine product. To increase further the interest in extra fancy honey, the following prizes are offered for honey produced in Danzenbaker hives during the year 1907, under the following conditions:

FIRST.—As above stated, the honey must be produced in a Danzenbaker hive, either the present style or any Danzenbaker hive that has been put out within the last few years. These hives may be had of any dealer in bee-keepers' supplies in any part of the country.

SECOND.—For Classes 1 and 2 we require a shipment of approximately the amount stated, to be made by the bee-keeper direct to us at Medina. After the prizes have been awarded the honey entered for competition in Class 1 or 2 will be held subject to the instructions of the producer. We will sell it at 5 percent commission, or we will ship it to any point direct by freight or express. There being good honey markets in our immediate vicinity, such as Columbus, Cincinnati, Cleveland, Buffalo, and Pittsburg, it can be disposed of without difficulty at good market prices, and the shipper will not have to lose a good market by shipping it here. Neither the honey awarded a prize nor that which obtained no prize is to be our property, but will be sold subject to the instructions of the producer who sends it to us. We are interested only in inspecting it to award the prizes.

THIRD.—For all honey submitted for prizes we must have a definite statement from the producer regarding the conditions under which it was produced, whether a light or heavy flow of honey, how the colony was handled, how many colonies in the yard, from what source produced, etc.

FOURTH.—For Classes 3, 4, and 5, we must, in addition to the above report, have the signature of two witnesses, certifying to the correctness of the report. If the party who sends us the report for the competition is well known to us we shall not require these witnesses. References may be given instead of the signature of witnesses if desired. All parties intending to compete for these prizes should send for blanks which we will furnish, on which the report may be made out.

FIFTH.—It will be noticed in the last three classes, three to five inclusive, that it is not at all necessary to send us the honey—all we require is a report.

SIXTH.—We reserve the right to limit the number of awards in each class, or to make no awards in a class if there are no satisfactory entries for the same.

SEVENTH.—No contestant will be awarded more than one prize in each class, but may make two entries if desired—one in Class 1 or 2, and another in Class 3, 4, or 5.

The classifications for the prizes are as follows:

CLASS 1.—For best shipment of 200 lbs. of comb honey in Danzenbaker sections.

CLASS 2.—For best case of comb honey in Danzenbaker sections.

CLASS 3.—For best report of yield from single colony in Danzenbaker hive.

CLASS 4.—For best report of yield from five colonies in Danzenbaker hives.

CLASS 5.—Eor best report of general results from use of Danzenbaker hive.

For each class there will be ten prizes as follows:

FIRST.—$10.00.
SECOND.—$7 00.
THIRD.—$5.00.
FOURTH.—$2.00.
FIFTH TO TENTH.—$1.00 each.

This is the time to decide to enter this competition. No matter where you live, whether in the United States or elsewhere, you can certainly find one class in which you can make an entry; and as there are ten prizes in each class, we believe that no one will be greatly disappointed in the results unless it is ourselves, and we hope that we shall not be, but see a large number of entries. Even if you fail to get a prize, you will doubtless have increased the value of your own product by your efforts to produce some big results or an extra quality of honey.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 31, 1907 | Vol. XLVII—No. 5

Getting Freight-Rates Lowered on Honey

Mr. Fred W. Muth, a member of the National Freight-Rate Committee, sends us the following for publication:

At the annual convention of the National Bee-Keepers' Association at San Antonio, Tex., in November, 1906, there was a committee appointed to secure, if possible, lower freight-rates on honey. Being one of that committee, I wish to make an explanation in behalf of the recognized high freight-rates, and then point out to each and every bee-keeper the steps that must be taken in order that the committee may be successful.

In the course of a year we receive many car-loads, as well as innumerable shipments of both comb and extracted honey. In one year's time we are obliged to enter many, many claims with the railroad companies, and are subjected to experiences which enable me to write intelligently upon this subject.

I am informed by a railroad official that the Classification Committees determine their classifications on an average, based upon the number of claims and the amount of money expended for damages incurred *en route* in the course of one year. Therefore, it is plainly seen that *the shippers* are responsible for the exorbitant freight-charges imposed upon themselves, and lower rates need not be expected until the losses paid by the transportation companies have reached the very minimum. Consequently, we must help ourselves, by learning how to ship our honey. Other industries have done it; why not we? Take, for example, the packages used by the sugar refineries—*they are perfect;* as well as those of the coffee importers, cereal manufacturers, and countless others that I could mention. They were compelled to work, and work hard in order to bring their losses down to the minimum, and discovered that it was absolutely necessary to use *perfect packages, and nothing else.* They now have the advantage of lower freight-rates than the honey-shipper.

In order to accomplish our aim to secure ower rates, we must, without one exception, hip both comb and extracted honey in first-lass packages. Bee-keepers, if you are producing comb honey for the market, by all means use *bottom* as well as *top starters* in your sections, so that the honey can not break loose at the bottom. This is the first and a very important step to be taken.

Furthermore, be sure to use the no-drip shipping-case. Wrap each case in paper, so that it will be kept clean *en route.* Pack 6 or 8 cases in one carrier, well supplied with straw in the bottom, and having handles that extend from 4 to 6 inches beyond its sides. Lastly, do no forget the usual "HANDLE WITH CARE" placard.

Now, if every bee-keeper and shipper of honey will follow the above instructions to the letter, it will tend to introduce a method that is both simple and practical, and he will not only realize a greater profit in his product, but will also be assisting those who are giving their time and lending their experience to secure lower freight-rates.

The producers and shippers of car-loads of comb honey appreciate the value and advantage of bottom as well as top starters. For instance, last summer we received two car-londs of comb honey from two different shippers. The one car contained 1170, and the other 1350 cases, and in the entire lot there was not one comb broken! These shippers understand their business. On the other hand, we received quite a number of small shipments, with here and there a broken comb, frequently some badly damaged lots, caused by the failure to use bottom starters. These experiences are trying and disgusting, and were the shipper in question subjected to a few of them, he would, without doubt, pay more attention to the manner in which he produced his honey, and his method of packing for shipment. These are the shipments that are responsible for the high freight-rates. Do not misunderstand me—there are many producers and shippers of honey on a small scale, who thoroughly understand this part of the work, and we must give the credit that is due them.

A word regarding extracted honey: The railroad companies pay more damage claims on account of poor packages used for extracted honey than for comb honey, and it behooves us to ship our extracted honey in *new* cans, if this style of package is to be used; or, if it be barrels, let them be good ones, well coopered, and *first-class in every respect.*

The greatest trouble rests with the bee-keeper; he clings entirely too much to second-hand packages, just because he can buy them a little cheaper; whereas, if he were to ship his product in good packagess, the freight-rates would be comparatively less, and, in the end, his cost for shipping would be a great deal less than at the present time, and there would be no trouble with the railroad companies, nor any unsatisfactory transactions.

Therefore, we must ask the bee-keepers to help—each and every one—if they want us to obtain lower freight-rates.

Respectfully submitted,
FRED W. MUTH,
Member Freight-Rate Committee.

We are very glad to place the foregoing before our readers. It is exactly in line with the suggestion we made at the San Antonio National convention (see page 90 of the National Report pamphlet), that "the dealers should write something about the proper shipping packages," if they desire the bee-papers to help induce bee-keepers to improve their methods of production and preparation for shipping. For years we have urged putting 6 or 8 cases of honey in large crates or carriers, with straw or hay underneath to break the force of a jar or jolt in handling and shipping, and with properly printed cautions on the outside, so that freight handlers would not handle honey as they would a box of baseballs.

Also, Dr. Miller has for years described his method of using bottom starters (as well as top ones) in sections of comb honey. But so many bee-keepers seem slow to profit by the good advice given in the bee-papers. Or, it may be that many bee-keepers who are helping to cause the continuance of high freight-rates on honey do not read bee-papers. Of course, such are "saving at the spigot and losing at the bunghole."

But we are very certain that all the bee-papers will be glad to help in every way possible to save money for their readers. Perhaps one of the first things needed is for every present reading bee-keeper to see to it that all his neighbor bee-keepers read the bee-papers also. This would help all around.

Bees and Grapes

The following has been called forth by Mr. Kennedy's article, page 980 (1906):

John Kennedy seems to think that more should give their experience as to bees work-

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ing on grapes. I'm ready to give mine as far as it goes. Some years bees work thickly on my grapes; other years scarcely at all, even when they have nothing else to do. The grapes, when first punctured, appear just as Mr. Kennedy says, "just as if one had stuck the point of a knife-blade in the side of each grape," only there is an enlargement of the cut at each end. Further than this, deponent sayeth not.

Is not Mr. Kennedy in error in deciding that bumble-bees were of different kinds because of different sizes? If I am not mistaken I have seen in the same nest bumble-bees of different sizes. C. C. MILLER.

Dr. Miller is over-cautious about drawing conclusions from his meager facts. One fact is that there are times when bees suck the juice of the grapes, and another that there are times when they do not do so, although a dearth may be in existence at the time. That inclines to the belief that some other agency must open the way for the bees.

The incision made in the grape was like that made by the point of a knife thrust in, with an enlargement at each end. Is it likely a bee would make a cut of that kind? It could not make it at a single blow, but a bird could. With an open mouth a bird striking the grape would make a hole with its pointed upper bill and another with its lower bill, and then closing its bill it would make the knife-cut between the two enlarged openings. But why not see the bird actually at work? Some one has said it is done very early in the morning. But why not watch early in the morning? Certainly here is a chance for further investigation.

The National Association All Right

Mr. M. A. Gill, perhaps Colorado's most extensive comb-honey producer, wrote us as follows under date of Jan. 10, 1907:

EDITOR YORK:—I wish to thank those who voted for me for President of the National Bee-Keepers' Association last November. I appreciate the honor intended, but I think the best man won, as is generally the case. I hereby pledge my aid and support to the National in its efforts to give the greatest good to the greatest number.

I may say that I started on Nov. 4, 1906, to attend the National convention at San Antonio, but was delayed by the trains so that when I reached El Paso I found I could be present but one day, so I switched off for California to visit my daughter.

While speaking of the National Association, I am reminded of the petty strifes and differences of opinions that have sprung up, and want to say that from my view-point I can see no just cause for such differences. I never have anything for sale except honey, and I am quite an extensive buyer of supplies for my own use only (having bought 100,000 sections and 600 pounds of comb foundation in 1906); think I have been watchful with regard to my own interests, and I will say that I have never detected where any editor or manufacturer was trying to corral the interests of our National Association to his own selfish ends.

I hope that every bee-keeper will help the National along until it becomes a bulwark behind which we can all take refuge, and through it secure the enforcement of the pure food law, educate the public on the use of honey, and then secure better prices and a better demand. M. A. GILL.

Mr. Gill is quite right, that the "strifes and differences of opinion that have sprung up" among a few members of the National are "petty." In fact, they are so "petty" that really the National's management need only go forward in its work for the good of all its members, and for the benefit of bee-keeping in general, and not waste any time on those who would sow discord among the membership.

If any member thinks he has a grievance, let him submit it to the Board of Directors for adjustment.

If any member knows that any officer, editor or manufacturer has become rich at the expense of the National's membership, and unfairly so, why, let it be announced publicly who such individual is. It is hardly possible that any one could get very rich in such manner without at least several members being aware of it. We have been fairly well acquainted with most of the officers of the National during the past 20 years, and we don't know of a single one who made anything for himself out of such official connection. We do know several, however, who made financial sacrifices for the Association; but they were glad of the opportunity to do so.

By the way, we fail to recall anything of any very great importance that any of the few who are now opposing the National ever did for its success. And at least one or two of them were not members at all until some 2 or 3 months ago.

Say, haven't about enough time, attention, and words been wasted on this thing? We plead guilty to a little of it, and expect to drop it with this editorial.

Loading a Car of Bees.—The picture on the first page shows Mr. W. O. Victor, of Texas, loading a car of 494 colonies and 296 3-frame nuclei of bees to be shipped to Utah. Mr. V. is a bee-keeper of large experience in the handling and shipping of bees. We had the pleasure of meeting him when attending the San Antonio National convention last November. He is one of the leading bee-keepers of Texas, and spoke a word of cordial welcome to the members of the National convention when it opened its sessions in San Antonio.

Legislation for Missouri Bee-Keepers.—We have received the following from the Secretary of the Missouri State Bee-Keepers' Association, which deserves the careful attention of every Missouri bee-keeper:

The Apiary Bill "providing for an inspector of apiaries to assist in the development and protection of the honey-industry, and for the prevention and suppression of diseases among honey-bees, such as foul brood," etc., has been introduced in the Senate of the 44th General Assembly, and is called Senate Bill No. 145.

I earnestly request all bee-keepers of Missouri to write to the Representative of their county in our Legislature; also to the Senator of their district, a letter urging them to work and vote for Senate Bill No. 145, as it is of the utmost importance to the bee-keepers of the State that this Bill may pass and become a law. It would assist me in my work if each one who has written to his Representatives in the Legislature, would send me a postal card stating to whom he has written, as I, when I approach these gentlemen, then will know that *they have heard from home.*

Bee-keepers, let us all work for the Foul Brood Bill, and we will succeed in having it passed.

There is another Bill before the Legislature now which is of great importance to the bee-keepers—the Pure Food Bill. Bills have been introduced in the Senate, being Senate Bills Nos. 47 and 48, also in the House, being Nos. 215 and 216. Both the Senate and House Bills read alike, which, if they become laws, will stop the sale of any article under the name of honey which is not the pure product of the honey-bee. It will easily be seen that the demand for honey must increase if these Bills pass and become laws, as it will stop the adulteration of honey by mixing honey with glucose, or by putting a little piece of comb honey in a tumbler and filling it with glucose and calling it "honey."

Bee-keepers, write to your Representatives, and Senators, also, to support these Bills. Write to the Senators to support Senate Bills Nos. 145, 47 and 48, and write to the Representatives to support Senate Bill No. 145 and House Bills Nos. 215 and 216.

Bee-Keepers of Missouri, don't miss this chance to do something for yourselves.

RONT. A. HOLEKAMP,
Sec. Missouri State Bee-Keepers' Association.

We hope that Mr. Holekamp's earnest call will be heeded by all the Missouri readers of the American Bee Journal. And may they succeed in their worthy efforts!

An Armful Swarm of Bees forms an interesting picture on the first page. Mr. W. O. Victor, who is holding the bees on his arm, seems quite unconcerned—just as if it were an every-day occurrence with him. Both of the photographs appearing on the first page this week were given to us by Mr. Victor, at the National convention in San Antonio, in November, 1906. It is hoped that he will soon contribute from his large fund of bee-experience to the department of "Southern Beedom."

The Minnesota State Bee-Keepers' Society has sent us a copy of a good circular that is evidently being sent to Minnesota bee-keepers. It says the objects of the Society are the promotion of scientific and practical bee-keeping, and also securing legislation for the encouragement and advancement of the bee-keeping industry. As a body they belong to the National Bee-Keepers' Association, and also to the Minnesota State Horti-

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cultural Society, which means that for $1.25 a Minnesota bee-keeper can become a member of 3 organizations, and is entitled to the benefits and literature of all. From the Horticultural Society literature in pamphlet form is received every month, and at the end of the year the whole in book form; also the programs and reports of bee-keepers' conventions are printed with the report of the Horticultural Society; in addition, 2 plant-premiums are given if the Secretary is notified before April 1.

It would seem that the features mentioned would be sufficient inducement for every Minnesota bee-keeper to become a member of the State Bee-Keepers' Society at once. Chas. D. Blaker, Sta. F, Minneapolis, Minn., is the Secretary, and Mrs. W. S. Wingate, 3013 Fremont Ave. S., Minneapolis, Minn., is the Treasurer. The membership dues of $1.25 may be sent either to Mr. Blaker or Mrs. Wingate.

Summer the Time for Bees

"Summer," said the humming bee,
"Summer is the time for me!
Richest fields of luscious clover,
Honey-cups all brimming over;
Not a cloud the long day through!
I like summer best—don't you?"

—*Selected.*

The Worcester Co., (Mass.) Convention.—The 7th annual meeting of the Worcester County Bee-Keepers' Association was held Jan. 12, 1907, at Worcester, with Pres. Burton Gates in the chair. After the brief reports, the following officers were elected:

President, Burton Gates; 1st Vice-President, F. H. Drake; 2d Vice-President, Chas. Goodell; and Secretary-Treasurer, Arthur H. Estabrook, of Leicester.

There were nearly 40 bee-keepers present, although the weather was very bad. Particular attention was paid to the status of bee-diseases in Massachusetts. A copy of the proposed Bill for Connecticut for protective legislation against bee-diseases was read and discussed. The Secretary was directed to correspond with the Massachusetts bee-keepers, in order to see what steps should be taken to secure the needed law. The hope was expressed that inspection would not only reduce the bee-diseases of the State, but that it would do much to elevate the bee-keeping methods and eliminate the primitive box-hives which are still used to some extent.

It was decided to hold, on Feb. 9 or 16 (according to the convenience of the speakers), an all day and evening Institute with the State Board of Agriculture. The full program and exact date can be learned from the Secretary. There will also be a banquet. Everybody is invited to attend the meeting and banquet (the price of the latter being 50 cents). All kinds of implements, inventions, and products of bees are solicited for the exhibition. It is expected that there will be present several hundred of the representative bee-keepers of New England. No one who can possibly attend can afford to stay away. Further details may be had by addressing the Secretary, A. H. Estabrook, care of Clark University, Worcester, Mass. Also watch the New England Homestead and Worcester newspapers.

Bee-Keepers' Supplies — Are they too High-Priced? Gasoline Engines

BY F. GREINER.

I am not absolutely certain that the bee-keepers of our land have good reason to complain about "high" prices of supplies. It may be that too many middlemen are employed. If this is the case, then it is not much different from what we see all around us in other branches of manufacture. Even the products of our farm pass through a chain of hands before reaching the consumer, till the price the farmer receives is doubled, tripled and quadrupled.

The agents which travel from town to town, and store to store, selling the goods of manufacturing concerns, must receive their pay, which comes out of the consumer, eventually. It is true, our large supply-dealers employ no traveling agents, their business being largely a mail-order one, and it would seem that there is absolutely no need of a middleman, but they are there! In view of the fact that some manufacturers, employing no agents, have no branch houses, offer goods much lower than the other so-called "big manufacturers," it would almost seem that the prices the latter class ask for their goods are rather high. On the other hand, it must not be lost sight of that the bee-keepers are not without redress. There is nothing to hinder our making our own bee-hives, sections, smokers, and extractors. I have done so, and still do so to some extent.

Certain goods are difficult to make by the bee-keeper himself; this cannot be denied: the honey-box or section, for example. To make these, as large manufacturers make them, requires special machinery, which is too costly for the small manufacturer. Years ago we sawed our sections on a circular saw by horse-power. They were four-piece sections, and had to be nailed, were very rigid, and, when filled, were glassed. Mr. Doolittle, I observe, has adhered to this very section while nearly all the rest of us have adopted the one-piece section or the four-piece dovetailed. We are not obliged to pay an exhorbitant price for the one-piece section as long as we can make a good four-piece for ourselves.

If we, however, find it to our advantage to use the large manufacturer's goods, we have to pay him his price.

The dovetailed hive is another example. I fail to see the advantage of a dove-tailed corner over any other, anyhow. With a plain circular saw we can make our hives with a "halved" corner, which is much superior to the dove-tailed; or we can simply cut off square and nail together. Hives made thus last a life-time, with good care. Why go to the big manufacturer and contribute to his riches?

Since I began bee-keeping and the manufacture of hives and other necessary supplies, a great change has come about. As mentioned above, we employed "the horse" as the power to serve our purpose; this was 30 years ago. Gas and gasoline engines have now taken the place of the horse, much to the comfort, pleasure and advantage, of both the horse and his owner. It is now a matter of great regret to me that I did not, some years ago, employ the gasoline engine to do my work rather ask the faithful horse to do it; but I was timid, fearing the engine would not prove the thing for me. I also feared the cost of the experiment. There may be other bee-keepers similarly situated as I was, and for their benefit I write this. I would have given quite a little if some one, in whom I placed confidence, could have told me what I know now about gasoline engines for bee-hive work. It was a question with me as to what size engine to purchase. I finally settled on a two-horse power engine. I reasoned thus: One horse having been doing most of my work, although some time the power was hardly adequate, why should not a 2-horse-power engine suffice? True, a horse may be "stimulated" to such an extent as to produce a power equal to a two or four horse power engine for a moment or so; with the engine such a course is not possible, but what the engine can do at all, it can do all the time.

I installed the two-horse power engine with some fears and misgivings, but now I am glad to say that it is answering my purpose perfectly. It is so easily started that I seldom saw off as much as one board with the band-saw any more. The engine is handy for other work also. What untold hard, backaching work I might have saved myself and hired man had I invested, some years ago, would be difficult to compute.

Since lumber is becoming higher and higher in price, timber getting more scarce, the little engine helps us to save many an expense in this line. We utilize almost any kind of timber, of any size down to 3 and 4 inches in diameter for the bee-hive work. Shipping-cases may be made from basswood, poplar, whitewood, pine, hemlock, chestnut, butternut, and other timbers not too hard. I have even used old chestnut fence-rails which otherwise would have found their way into the kitchen stove. The

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manner in which I handle any such material is this:

First, the rails, slabs or small trees are cut on the crosscut saw about 19 to 20 inches in length; next, on the rip-saw I take off a little slab, turn down on the flat side and split through the middle; in case of slabs or rails no splitting through the middle is necessary, but such are in shape to rip up into desired width at once, after taking a little of one side off.

The tops and bottoms of shipping cases need not be all of one piece. With our rig we can not saw anything much wider than 4 or 5 inches. This is sufficient for our work. While a whole top or a whole bottom may be better for a shipping-case, a 3-piece bottom or top answers well.

Brood-frames should be made of white pine, if possible, but wide frames and the material for section-holders may be of almost any other timber soft enough to nail up easily.

In the years gone by we have wasted and burned a great deal of material that we could now utilize very nicely for hive-fixtures. This is a matter of regret, but cannot be helped now. The high price of timber has made us more careful and saving, and in the future we will have to economize more and more. The gasoline engine will help us do it, and at the same time make us more independent of the supply dealer.

Naples, N. Y.

Wax-Extracting — The Hershiser Wax-Press and Method

BY OREL L. HERSHISER

Beeswax is the more valuable of apiarian products. It commands the higher price; there is a steady and constant demand for it; its market value is comparatively stable; it keeps indefinitely and unchanged by the elements, and is not ordinarily subject to damage in transportation.

Notwithstanding its high standard of value, apiarists, generally, have given little thought to its production until quite recent years, producing what they could obtain by primitive methods of extracting, but wasting and destroying more than was produced. This lack of interest and progress in the art of wax-production was undoubtedly due to the difficulty of separating the wax from the refuse, composed of cast-off cocoons from which bees have hatched, propolis, pollen, and other foreign materials, always present in old bee-comb in varying quantities. So difficult and almost impossible was it, by the means employed, to extract more than a small amount of wax from these impurities that it was supposed by many that the old bee-comb contained little else than dross. Because of the unprofitable returns for the work, muss and trouble of extracting what little wax could be obtained, vast quantities of old bee-comb have been destroyed or thrown away, the bee-keeper believing it to be of no practical value.

Thus apiarists in this and other lands have been throwing away many dollars annually, the aggregate waste to some individual bee-keepers, during the years of their bee-keeping, reaching into the hundreds of dollars, and apiculture generally has lost hundreds of dollars in this way. As a matter of fact, all old bee-comb is rich in fine wax, the quantity varying from 30 percent upwards, according to the quantity of foreign impurities contained therein. New comb in which bees have not been reared or pollen stored is approximately 100 per cent pure.

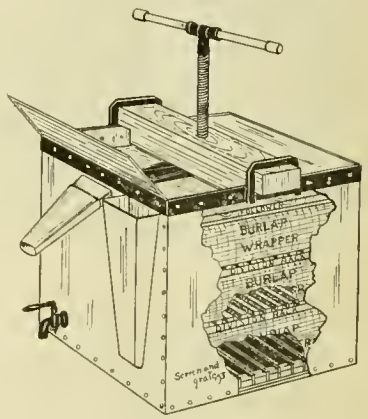
Any of the wax-presses heretofore in common use, when economically operated, will necessarily leave in the slumgum a large amount of wax, the quantity varying from 8 percent to 25 percent of the weight of the slumgum. Slumgum from the solar wax-extractor contains even a higher percentage of wax. All this has been proven many times over by re-extracting the slumgum from nearly every known wax-press, including all the modern and most approved styles heretofore on the market. The difficulty, however, is not that of insufficient pressure, but because the methods are faulty in other particulars. In these presses the interior parts of the mass of slumgum are not subjected to the same compression as the outside portions, the elasticity of the mass opposing and diminishing the actual pressure. As the surface of the mass becomes hard and compact the escape of wax is impeded. Moreover, the power required to compress the slumgum increases greatly toward the end of the operation, as the more the mass is compressed the more solid and less impervious it becomes, especially on the surface of the mass, and hence the greater the force necessary to expel the remaining wax, which by these faulty methods could possibly be obtained; and finally, *except a radical departure be taken from the ordinary and customary methods of compression,* capillary attraction will hold a portion of the wax with the moisture which it will be impossible to expel with any amount of pressure.

If you will saturate a sponge with coloring-matter, which is capable of being washed out, and subject it to pressure, it will be found that no amount of squeezing will remove all the color. Saturate it with water and squeeze again, and more of the coloring-matter will be removed, and if the process of saturating with water and squeezing be repeated several times all the coloring matter will be expelled. It has been washed out. Likewise, in a very similar manner, if a mass of old bee-comb be subjected to boiling water, the wax contained therein will melt, and water and wax may be squeezed out, but no amount of pressure will expel all the water and wax. But let the mass of old comb be saturated with hot water again, and the squeezing repeated, and as the hot water is expelled it will bring out with it a portion of the remaining wax. If the process of intermittent pressure and saturation with hot water is several times repeated ultimately all the wax will be expelled, and the slumgum will hold only water in capillary attraction.

Again, the specific gravity of wax being less than that of water, if we do the pressing under the surface of hot water, the wax, as it is separated from the slumgum, will rise and float on the surface of the water.

If the mass of old comb or slumgum is comparatively thin the wax will have but a short distance to move to become free therefrom, and by applying intermittent pressure, while immersed in hot water, the washing process, as exemplified in the case of the sponge, will be employed.

It is obvious that the methods heretofore in use locked up within the slumgum large quantities of wax, as it were in a strong safe, requiring a certain but simple combination to open and release it into our possession. That combination, embracing the application of scien-



HERSHISER WAX-PRESS.

tifically correct principles, as herein pointed out, is fully comprehended in the Hershiser wax-press, a view of which is herewith presented.

Briefly, this is a construction in which the masses of slumgum within the extractor are placed in comparatively thin layers so that the wax has the shortest distance possible to move to become free therefrom.

Again, the masses of slumgum or old comb are pressed while immersed in boiling water, and the wax rises and floats on the surface.

Further, the structure is designed with the special object of advantageously applying the principle or intermittent pressure.

Finally, in this structure the pressure on the several layers of old comb or slumgum is readily and automatically released, thus affording the best possible conditions for the absorption of hot water for the displacement of the wax by repeated pressings.

Considering the extractor specifically, a boiler or rectangular form is provided, which besides its use in holding the water and bee-comb, or slumgum, to be extracted, serves as the guiding means for the follower, and separating or division racks placed between the cheeses of slumgum. Being constructed out of very strong sheet-metal it enables the operator to apply the maximum amount of pressure required for the extraction of the wax. Across the top of the boiler is a beam, the ends of which extend underneath loops at two of its opposite sides. The boiler is provided at one

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end and on the outside with a funnel or spout opening into the same near the bottom thereof, the top of the funnel being nearly on a level with the top of the boiler. The funnel is for the purpose of introducing hot water into the boiler at the bottom. A delivery spout is provided near the top of the boiler for drawing off the wax after the same has been melted and pressed from the cheeses of wax-yielding materials. A cock for drawing off the water from the boiler is provided near its bottom.

The boiler may be placed on a stove, or other suitable means of heating may be provided. Through the beam at the top is introduced a screw engaging suitable screw-threaded bushing therein. The screw is provided with a handle and exerts pressure downward on the follower, which is substantially the size of the inside horizontal dimension of the boiler. In the bottom of the boiler is placed a rack or grate consisting of spaced steel bars on edge, over which is placed a woven-wire screen. On this is placed a cheese of bee-comb or slumgum after the same has been made in proper form, by means of a cheese-box provided for the purpose, and being wrapped and secured in burlap cloth. On top of this bottom cheese is placed a slatted wooden frame, called a division-rack, consisting of cross slats, on the top and bottom of which are secured woven-wire screens. The cheeses and these division-racks alternate until the top is reached, the standard number of cheeses being three, when the follower is placed on top of the uppermost cheese, this follower being provided with cross-slats covered with woven-wire screen on its under side.

In operation, the extractor is placed on a stove or other suitable means of heating, and sufficient water is provided to prevent the heat from injuring the bottom of the boiler, after which it is filled with the cheeses of slumgum or old comb as described. More water is then added until it rises to nearly the level of the delivery spout. The whole is then brought to a sharp boil. Owing to the construction of the division-racks the water is free to circulate between the layers of slumgum or old comb, and, when boiled, melts every particle of wax contained therein. The slumgum, owing to the presence of the burlap covering in which it is wrapped and the screen-covered division-racks, can not pass up between the slatted frames, but the wax, when melted by the hot water, readily passes, and escapes in this way, rising and floating on the surface of the water, where, by means of raising the level of the water, by filling in hot water through the funnel, the wax may be readily and cleanly drawn off, so that no wax will remain on the surface of the water in the extractor. Near the end of the operation some hot water will come out with the last remnants of wax, leaving the surface in the extractor clean. A large delivery spout is provided, which results in cleanly drawing off the wax with the use of a comparatively small quantity of hot water.

In pressing, the screw should be turned down gently at first, allowing the wax and water to escape from the cheeses. After the screw has been turned down as far as it will go with moderate exertion, allow the slumgum to remain under compression 4 or 5 minutes. Then reverse the screw and release the pressure, allowing 4 or 5 minutes for the slumgum to absorb the hot water. Then press again, turning the screw down a little further than the first time, and leaving the slumgum under pressure 4 or 5 minutes as before; then release the pressure as before, and repeat the process of intermittent pressure a few times until the wax is cleanly extracted from the slumgum, each successive pressing turning the screw down a little further.

To form the cheese, a box without top or bottom is provided, the same being a little longer on the lower than on the upper plane, in order that it may be easily slipped off from the cheese after it is formed. Lay this cheese-box on a plain surface, preferably a wood or cement floor, spread the burlap cheese-cloth over it so it will project uniformly from the four sides of the cheese-box, and then press it evenly down so that it will fit snugly against the four inner sides of the box. Now fill in the slumgum or old comb, tamping it down good and solid, a tamper made of a 2x4 piece of wood being good for the purpose. When the cheese is filled even with the top of the box, fold the cloth from two opposite sides and fasten; then fold the cloth from the remaining sides and fasten. Long, sharp brad-nails, used as pins, have been found to be excellent for fastening the cheese-cloth. The cheese, still within the box, may now be placed in the extractor and the box lifted off.

When rendering comb which contains a large percentage of wax, or in converting cappings into wax by the hot-water process, it is advisable to melt the comb or cappings in another boiler and dip out as much as can readily be obtained. Then place the cheese-box on a division-rack, over the extractor, so the drip will fall therein, and form the cheese by dipping the residue from the boiler into the burlap lined cheese-box until it is full, no tamping be required.

In crowding the extractor to its fullest capacity the beam may be adjusted after the slumgum has been heated sufficiently to settle down where it will not interfere.

By the method here described, practically all the wax may be extracted from old comb or slumgum. By this is meant that after the extracting is finished as per directions for the operation as practiced in every-day commercial use, less than 1 per cent of the residue will be wax. As a matter of fact, thorough and severe tests which have been made of slumgum from which the wax had been extracted as here described have revealed from less than ½ of 1 percent to less than ⅝ of 1 per cent.

It will be observed that there is no opening of the extractor after it is filled until the extracting is finished. Hence there is no raking, shaking or pawing over of the slumgum, and no second or subsequent cookings and pressings in order to get what wax it is possible to obtain by some of the mussy and unsatisfactory methods.

In years past I was one of those who mussed and fussed over wax-extracting, and finally came to using a screw-press machine of modern manufacture, reputed to be one of the best. By this machine I was obtaining from 200 to 250 pounds of wax, annually, but the results of extracting were always unsatisfactory, and for good reasons, as, besides the slow and tedious work, involving the use of a comparatively large amount of fuel and the remelting of the wax in order to mould it, I have since discovered that, with all my pains in raking, scraping, stirring and repeated pressings, I had been throwing away in the slumgum a considerable quantity of wax each year, which it was impossible to obtain with the press. This waste amounted to enough to pay a handsome dividend on an investment of several presses. I can therefore fully appreciate the pleasure of being spared all that muss, which has now become unnecessary, and there is added satisfaction in the knowledge that, when the operation of extracting is completed, practically all the wax has been extracted from the slumgum, and that this maximum of beneficial result has been achieved with the minimum amount of labor, muss and expense. It may be added that in the prodigality of wax-wasting I had much good company, as I have had occasion to know that my experience was by no means exceptional. Indeed, a fair estimate would place nine-tenths or more of the bee-keepers in the class to which I then belonged.

A fair average price of wax in Eastern markets is 28 cents per pound. Suppose that after extracting is finished the residue of slumgum amounts to 100 pounds. Now for every pound of wax thrown away with the slumgum 28 cents is lost; 28 cents is 6 per cent of $4.66 2-3. Then to find how much money at 6 per cent is required to yield the value of a given number of pounds of wax lost in the slumgum, multiply $4.66 2-3 by such number. For example, suppose we find that we are losing 8 lbs. of wax in every 100 lbs. of slumgum; then $4.66 2-3x8 equals $37.33 1-3, which is the amount that at 6 percent would be required to yield $2.24, the value of the 8 pounds of wax lost; like cases may be solved by this rule. For the benefit of those who have no ready means of ascertaining how much wax they are wasting, it may be stated that perhaps not one bee-keeper in 50 is getting within from 8 to 10 per cent of his wax, and perhaps one in 10 is getting within 15 to 25 per cent.

Deposits of money in banks that pay 4 percent where the money is available for withdrawal is considered an ideal investment. Municipal, State or Government bonds seldom yield more than 6 percent, yet they are favorite investments for capitalists. How much more ideal, then, is an investment by the bee-keeper of a small sum in a good wax-extractor which, after making due allowance for wear and tear on the machine, will yield all the way from 6 percent to many hundred percent, depending upon the amount of wax to be extracted. Bee-

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keepers will quickly observe the fact that the additional first cost (over and above the cost of the best of other presses) of a machine that will save anywhere from one dollar upwards to twice or thrice such cost annually, is certainly an ideal and highly profitable investment. The old adage, "The best is the cheapest." may be well and truly applied to wax-extractors.

Wishing to ascertain how much fuel it was necessary to use under the most unfavorable conditions, 200 pounds of slumgum from a solar wax-extractor was carefully weighed out and extracted. The following notes were taken:

The temperature of the water, drawn from the cold-water tap in the cellar, was 33 degrees F. The temperature of the cellar where the slumgum was stored and the extracting done was 37 degrees F. The amount of water used was 45 gallons. The fuel was illuminating gas. The amount of fuel consumed in extracting was 300 feet; additional gas consumed in keeping the wax liquid in a separate tank so the sediment would separate from the wax and make clean cakes, 20 feet, or 320 feet in all. Time of whole operation, extracting and molding ready for market, 6½ hours. The amount of clean A No. 1 wax obtained, 70¼ pounds, all nicely moulded and ready for market. Price of gas $1.20 per thousand feet, with 20 per cent discount if paid before the 10th of each month. Cost of the fuel for the whole operation, cash basis, 32 cents, or less than ½ cent per pound of wax. Illuminating gas is the most expensive fuel of which I know. It is about four times as expensive as natural gas, and I suppose that wood or coal would be cheaper in about the same proportion, and that under ordinary conditions, this extracting could have been done at an expense of about 8 cents for fuel. Water, as we all know, even hot water, is inexpensive. The fuel item when extracting beeswax by the improved methods is therefore scarcely worth considering. Another point worthy of note is that this slumgum from the solar wax-extractor yielded a trifle over 35 per cent of its weight in wax.

It should be borne in mind that, to say the least, no more work and expense, and far less muss, is required to do the extracting in this practically perfect manner than is required to do it by the use of such extractors and methods as must necessarily leave several per cent of the wax in the slumgum, and hence every pound so saved by the better machine and process may be figured as the saving of the same at its full market value without any allowance for the work and expense of extracting, when comparisons are made with the less-productive methods.

Again, let it be born in mind that the number of pounds of wax produced per hour, or per day, is only one indication of the value of a machine or process, and it may indicate, when all is considered, the entire absence of value. If a machine will turn out 100 pounds of wax per day, and throw from 8 to 15 per cent out in the slumgum, it is not so valuable as one that will throw out one-eighth of that percent, even though the product, in the latter case, be but 40 or 50 pounds per day, because the difference in the amount of wax obtained will more than hire the help for the difference in the time of extracting.

And, further, it may be added that, having produced thousands of pounds of wax by this hot-water and hot-press process, by re-extracting slumgum purchased from other bee-keepers in a wholesale way, and sold every pound of it in large and small quantities at fancy or highest market prices, and never for less, to experts on the value of the same, it is proper to state emphatically *that the quality of the wax produced from this right kind of a hot-water press is not inferior to that produced by the unheated press, or any other wax-extractors known to me.*

The boiler of the Hershiser wax-press is also admirably adapted to the important use of liquefying honey in 5-gallon tin cans, the standard size, accommodating 4 or 5 of them at one time. It is also useful as an uncapping can, and as a honey-press for pressing honey out of cappings, and broken combs. It, therefore, may be used for three important purposes, besides its use as a wax-extractor boiler.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Why the High Prices of Honey?

Some are asking why high prices prevail more of late than was the custom in past years. Editor Root, of Gleanings, already attributes it to the work of the new Pure Food Law—articles of better quality demanding a better price. I hardly think this is the main reason. It must be the demand—increased consumption—and, in addition to this the past season, the short production. Nearly all will admit that the honey crop was short over the entire country, with a good demand at the beginning of the season. Therefore, the bulk of the crop was soon sold.

There is *very* little honey in Texas, to my knowledge; while the demand is better than I have known it for years. In our local market the price of honey has just doubled. Nearly all other products are high in price. The whole country is more prosperous just now than it ever has been. There is an increased demand for all commodities; hence, the high prices now prevailing.

How to Start with Bees

It is the man who thinks he knows all about bees, and begins with 200 or 300 colonies the first pop, who will be saying a year or two later, "Bees are the biggest nuisance on the face of the earth. No one ever made anything out of them." We have seen several do this "trick," even after we had discouraged them all we could; but some people are so "smart," until they get burned. Therefore, be careful lest you do the same thing.

A start should be made with a few colonies, and the increase be made as means and experience permit. The season is approaching when many will want to get some bees, and now is the time to settle upon the number of colonies best to begin with. Read a good bee-book and a bee-paper or two. Several will be better, as one can not expect to get as much out of one. Then expect to learn something about the bees every day.

Gathering Light Honey a Trait in Bees

The following from J. E. Chambers, of Vigo, Tex., is of much interest to me:

Friend Scholl:—Did you ever observe that during a honey-flow from two sources—one dark and the other light—the bees gather very differently, some gathering all light honey, and other colonies gathering all dark. During the sumac flow here I kept a close watch on all of my colonies, and found that some did not work on the sage or dark honey-plants at all, but instead brought in the white honey. I do not know, but I think that this trait is worth a good bit to me. I will rear some queens from those colonies that worked so strong on the sumac while the others were getting sage, and see if this trait is hereditary or not. However, I doubt if such traits are always transmissible, even though largely hereditary. But if measurably so, I think I have found an item of value to me, for I often have a good crop of white honey spoiled by the additiou of a little dark honey during a double flow, and, of course, to such there would be no special value in working for such bees. J. E. Chambers.

This calls to mind an experience I had in the fall of 1905, while extracting honey at one of our out-yards on the Brazos River Valley plantations. The bees were gathering honey from cotton, mainly, which yielded well, and, at the same time, the elms—*Ulmus alata*—were also yielding abundant nectar. The surplus honey that was being taken off was from the cotton, and very light in color. The bees were still bringing in honey from this same source—of light

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honey. That from the elms was dark amber, and strong-flavored. A noticeable fact was that, although certain colonies which were apparently of the same strength, and alike in other conditions, they had different supers of honey. While some of the supers were filled with nice, white combs throughout, others would be filled with combs partly discolored by the dark elm honey, while still others would contain nearly all dark honey-combs. The product was all bulk honey, but then supers with the dark honey had to be extracted.

Just why some colonies should have stored much more of the dark honey than others, some of which stored none of it at all, I can not say. It is an important question, however, for the white comb-honey producer.

Pure Food Law for Bee-Keepers

A reputation for honest goods and honest dealing is bound to bring success; especially since the Pure Food Law has been set to work. The honest bee-keeper should now be able to make an honest living, and he can do it if he sells honest products, for, with the adulterated stuff out of the way, the pure article will find ready sale at good prices. This is as it should be.

The bee-keeping fraternity has suffered long enough—the industry has been hampered. The honest bee-keeper has been robbed of the profits he could have made from his product, and the consumers, of their money, which they paid for the stuff not worth it, by the greedy "manufacturers" of the vile, adulterated goods, which were forced upon the innocent public under some catchy name. Times have changed, and everything *must* be what it should be, and I have no fear that the honest bee-keepers will have any trouble to come up to this.

Weight of Eastern and Southwestern Honey

The Arizona Experiment Station, in one of its circulars, "Practical Hints to Farmers," says in comparing samples of native honeys with those from the East:

"The average moisture, 16.85 percent, is seen to be markedly less than that in Eastern honeys, averaging in two instances 19.39 and 18.50 percent. This results from the exposure of Southwestern honeys before and during extraction to the exceedingly dry air of this region. With our excessive heat and dryness, evaporation quickly concentrates the honeys to a condition of ripeness which insures keeping, also considerably increasing the weight per gallon. Eastern honey usually weighs about 58 pounds in a 5-gallon can; while the Arizona article weighs ordinarily from 60 to 62 pounds."

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

Report of the Michigan State Convention

REPORTED BY R. F. HOLTERMANN

The opening session of the above Association took place at 8 p. m., Dec. 25, 1906, in the parlors of the Northern Hotel, at Big Rapids, Mich., with President W. Z. Hutchinson in the chair.

"HONEY POSSIBILITIES OF NORTHERN MICHIGAN."

This was by S. D. Chapman, Mancelona, and was the first topic on the program. Mr. Chapman is in a red-raspberry section, and said there were more bees there now than in any other part of Michigan. He began bee-keeping up there in 1881, and had not known a complete honey crop failure, raspberry being his only source until the year 1895, caused by 16 inches of snow on May 16 of that year, the thermometer dropping to 11 degrees above zero, and killing everything. They had been able to haul saw-logs on the snow that fell for 3 days after. During the past season (1906) the frost had also used them up pretty badly, by a frost May 20; however, they had secured a partial crop of raspberry honey. He had nearly 400 colonies of bees, and, one year with another, he could secure about 100 pounds of surplus honey to the colony. The honey-flow generally began June 1, and closed from July 18 to July 20. The bulk of the raspberry honey came in during the afternoon from 1 to 4 o'clock. During that time he had known a colony in an 8-frame hive to gain 17 pounds, or a total gain for that day being 21 pounds.

When Mr. Chapman first began bee-keeping in Northern Michigan, there was no fall honey-flow whatever, but buckwheat and goldenrod were now beginning to give some surplus honey. Sumac was also coming in, and where it existed in sufficient quantity, coming in at the close of raspberry, it prolonged the light-flow by a period of 10 days. Both the raspberry and sumac honey gave a honey with good body, color and flavor. Raspberry, when it yielded well, could beat basswood at its best, for rapidity with which the bees could gather it. He had experience in first-class basswood localities.

Mr. Chapman, in speaking of his experience with Carniolan bees as compared with Italian for wintering, stated that the Carniolans were much better winterers than the Italians.

WEDNESDAY MORNING SESSION.

The session opened with Association business, a goodly number being present. Elmore M. Hunt, the Secretary-Treasurer, showed a very satisfactory report. From a cash deficit, with his energy he had worked until this year there was a balance on hand.

THE NATIONAL FOR DETROIT IN 1907

Upon resolution by Messrs. Geo. E. Hilton, Vice-President, and L. A. Aspinwall, it was decided to join the National Bee-Keepers' Association in a body, so that during the present year everyone becoming a member of the State Association will also be a member of the National.

The same gentlemen then brought forward the matter of inviting the National to have its next meeting in Detroit. It was urged that a good turnout would be assured in Detroit on account of railway facilities from all points, including Canada. R. F. Holtermann, of Ontario, said he felt safe on behalf of Canadians to add to the invitation for the convention to be held at Detroit. The convention held so close to the Canadian border would prove a strong temptation to Canadians, and in all probability, a turnout of some 50 could be depended on from that country. A standing vote being taken, the invitation to the National was unanimous.

PUBLISHING A HONEY-PAMPHLET.

The matter of publishing a pamphlet with a list of members of the Association and the quantity of comb and extracted honey they had for sale, also pointing out the value of honey as a food, and how to liquefy it, was discussed; also the number to be published. Some objected to distributing a pamphlet by themselves, which would give to prospective customers the name and address of rival producers. It was suggested by Mr. Holtermann that the National Association could best get out a pamphlet setting forth the value of honey, how to judge the quality, how to store and liquefy it. That organization could get out the largest number and therefore supply it the cheapest, and such a pamphlet should be supplied at about cost price to other associations in affiliation, or to individuals who were members. A leaflet with names and addresses giving amount of honey each member had for sale could be sent out and supplied by the State organization. It was decided to issue a pamphlet similar to last year for the special benefit of members.

The election of officers resulted as follows: President, W. Z. Hutchinson; Vice-President, Geo. E. Hilton; Secretary-Treasurer, Elmore M. Hunt—all officers being re-elected. They also received a vote of thanks for the hard work which had been done. Mr. Hunt,

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the Secretary, being specially singled out for his efficient efforts.

"The Non-Swarming Hive."

Mr. L. A. Aspinwall gave an address on this subject which was listened to with very keen interest. He thought he would better confine himself to the advantages of such a hive, but many questions had to be answered as to the construction of the hive, and so he briefly described its construction, saying that the principle was to prevent crowding of the bees by means of slatted separators between the combs.

Turning then to the advantages, in an invention of merit the reality generally ran ahead of the expectation of the inventor, he said; this had been the case with the steam engine, telegraph, telephone, and many revolutionary inventions, and in the invention of the non-swarming hive certain things had come to pass least looked for. Taking an equal number of bees in the 8 or 10 frame Langstroth hive as ordinarily made, and the same in a non-swarmer, and the latter would produce double the amount of honey. Why? Put a dozen men in a stone-quarry where they were constantly elbowing one another and they would do much less work than when they did not interfere with each other. He had been testing this hive for years, and in every test the non-swarmer had given more than double the surplus the 8-frame ordinary hive had given.

Another feature: Queen-excluding zinc need not be used with this new hive. Out of 3000 sections taken this year, only 2 showed any signs that the queen had been in the super. Why? The queen will not venture into the super until she is crowded out of the brood-chamber. The queen-excluder then offered no obstruction to the bees, and free access to every part of the hive was what is needed for a non-swarmer. Next, he used drone and worker foundation in the sections; by putting drone foundation in the central sections, he prevented the bees from storing pollen in the sections. Each section-super contained 45 sections. He was compelled to do this because the warm currents of air rushing into the super on account of the slatted separators between the brood-combs, the bees would rush into the supers more rapidly; but until he used the drone-comb, there was trouble on account of pollen. This had been overcome. In reply to two questions, he said the slatted separators were used only during the honey-flow, and that he preferred for market and use to have drone section-comb.

Mr. Fred Muth, of Ohio, thought that honey in drone-comb would be objectionable upon the market.

Another member present pointed out that sections with drone-comb at present generally had worker-comb started, and from that it was changed to drone. A uniformly built drone-comb would not have the objection that the mixture would have.

In handling the frames the end-lugs of the frames were so far away from the bees that they were never in the way when handling; the frames have the slatted system on the ends, and the outer piece was close-end, but to this other piece the bees did not get, and none would be crushed in rapid manipulation. In handling this hive there would be no propolis on the fingers.

The bees from 15 to 18 days old largely rule the hive. They take the honey from the field-bees and store it in the cells. The bees of this age are also largely the wax-secreters.

He could operate with the same outlay of labor more than double the number of colonies. He could get more than double the quantity of honey. No one in his neighborhood had averaged more than 30 pounds per colony; he had averaged 100 pounds to the colony.

Outdoor Wintering of Bees.

On this subject Vice-President Geo. E. Hilton said that he combined bee-keeping with other lines of business. Much of bee-keeping had also locality to consider. He wintered his bees outside, and had tried below and above ground, single and double walled hives, and situated as he now was, he was obliged to winter them above ground and outdoors, and he had been obliged to use double-walled hives. He found double-walled hives had many virtues for either summer or winter. Where he lived, they were subject to sudden changes in spring and fall. During intensely hot weather he could keep the bees in the supers. People generally wanted to know how to winter bees better; two or three persons within the sound of his voice had mastered the problem and wintered bees inside.

Plenty of stores were wanted; atmospheric conditions alone were not enough. Quality, quantity, right stores in the right place, were what was wanted. If the bees had plenty of stores in the fall and few vacant cells, they would be less apt to gather fruit-juices (sweet or sour), or honey-dew; and if there were plenty of sealed stores, in any case the percentage of injurious stores would not be great enough to injure the bees.

To save work, when the winter cushions came off, the supers went on, and *vice versa*—one wheelbarrow to a load of each, each trip. For wintering he folded the enamel cloth half back, exposing the rear half of the combs and bees. Over these he placed a piece of burlap which allowed the passage of moisture, and above this he placed the cushion for the winter. The cushion had a 4-inch rim, cloth at the top and bottom, and wheat-chaff or cut straw to fill the space between. Oat-chaff, or straw, was more liable to mold. He liked these cushions. They kept their shape, piled nicely in the summer, and could be kept free from mice. A gable-end cover with a hole in each end allowed the moisture to pass from the hive as it was carried above the cushion from the cluster below, by a slight circulation of air. We must avoid the appearance of moisture in the hive. In his locality the temperature fell to 20 degrees below zero. He allowed snow to remain as it fell on and about the hive, only removing it as the temperature became high enough for the bees to fly.

A discussion followed, some thinking that for one who would give his bees care and attention, a single-walled hive would be better.

(Continued next week.)

Conducted by E. L. Byer, Markham, Ont.

Foreign Honey in Canada

Possibly some might think, on reading that item on page 32, relative to prices of honey in Ontario, that *now* would be a good time for foreign honey to gain a foothold in our markets. I have a brother working with one of the largest baking concerns in Canada, and he informs me that they are importing honey, but no great quantity, from Cuba and Jamaica. Even at present prices they prefer the Canadian product, if they can only get it.

Owing to the tariff wall that Uncle Sam and Johnny Canuck have seen fit to erect between the two countries, there is a duty of 3 cents a pound on all honey coming into Canada from the United States. Cuban honey has to pay the same, but Jamaica, under the preferential tariff, pays 2 cents per pound. Considering a tax like this, added to the freight over such a long distance, it is surprising to know that Cuban honey has been laid down in Toronto for 7 cents. Surely, there can not be much in it for the producer in Cuba at that figure. I believe the figure quoted is a little lower than ordinarily, but I have positive knowledge of Cuban honey being sold in Toronto for 7 cents, 3 or 4 years ago.

Bee-Keeping—Our "Queer" Calling

In glancing over the "patent insides" of one of our local papers a short time ago, I noticed an item under the caption, "Some queer callings that have journals devoted to their interests." Among the list submitted was

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bee-keeping, the writerr of the article assuring us that "*actually* 5 or 6 papers were published in America whose interests were devoted to this peculiar calling."

It is not to be wondered at that bee-keeping should be regarded with such an air of mystery by the masses, when such stuff as the foregoing is scattered broadcast over the land; and not withstanding all the admitted advances made in the last 20 years in the matter of dissemination of apicultural literature, to my mind there is no doubt but the general public are more ignorant of bee-keeping than of any other calling.

I was forcibly reminded of this fact one day last June, when coming through one of my neighboring villages with a few colonies of bees in a wagon. Having occasion to stop at a grocery store for a few minutes, I found, on coming out, quite a crowd of curious people surrounding the wagon and viewing the bees which were clustered to the screens, covering the space provided over the hives. And of all the funny questions "fired" at me relative to what those bees were doing! And among the questioners were some good farmers who knew all about raising well-bred cattle and horses.

After satisfying the crowd's curiosity to the best of my ability, and as far as time would permit, I drove off rather amused, and at the same time wondering if the *greenest of green* bee-keepers would ask such ridiculous questions of those same farmers, if they had their cattle and horses on exhibition.

Director Ferrier, Not "Fewer"

In the list of Directors of the Ontario Bee-Keepers' Association (page 1036—1906) for District No. 2, there occurs a typographical error. It should read A. A. Ferrier, of Renfrew, instead of A. A. Fewer, as given. Mr. F. is one of Ontario's live, aggressive apiarists, and we would not wish him to be "fewer," but rather the *more* like him the better.

Mixing Alsike With Red Clover for Bees

A writer in Gleanings thinks that we would not need to try to get long-tongued bees that would work on red clover if farmers would mix more alsike with their clover seed, when seeding their meadows. His theory, of course, is, that the bees in working on the alsike and red clover blossoms back and forth, by the process of pollination, causes the red clover to partake more of the nature of the alsike, which is, as we all know, one of the very best honey-plants. He says:

"The bees will work strongly on the alsike, and will carry the pollen from the alsike to the red clover; and if this method is kept up for a few years the red clover will make a good honey-plant." This, in theory, sounds quite plausible, but I am sorry to say that, in common with many other of our pet theories, it fails to work out in practise. For 25 years Markham and adjoining townships have grown thousands of acres of alsike for seed, and clover meadows are generally well mixed with alsike, which comes as a voluntary crop. Yet, to-day, red clover is no better honey-plant with us than it was 25 years ago.

Bee-Stings and Their Effects

Wm. W. Green deserves a medal (see page 28). Any man who could, in the "interest of science," keep *cool* under the conditions he describes, must be possessed of considerable stoicism, to say the least. Any one who is not affected much by bee-stings, or who has never seen an acute case of bee-sting poisoning, can hardly realize what a serious matter it is.

Last season, while loading some bees one evening, a small knot dropped out of a bottom-board, allowing a few bees to escape and crawl around. A young man, who was assisting me, was stung by one on the throat. Although he had only a few days before been stung at different times with no ill effects, yet this time the effect was terrible. Inside of 5 minutes he was rolling on the ground in agony, his face and hands livid, and complaining of an intolerable itching all over his body. We gave him some brandy, which happened to be in the farmer's house, and hustled him off to the doctor—a distance of 3 miles, which was not long in being covered. Two hours after the stinging the patient had about fully recovered.

I have spoken to several M. D.'s, and they all agree that aromatic spirits of ammonia is the best stimulant to administer in case of bee-stings; and from what I have seen of its use, I certainly think it should be in the home of every bee-keeper, to be on hand in emergencies.

Conducted by EMMA M. WILSON, Marengo, Ill.

The Baroness Burdett-Coutts

The death of the Baroness Burdett-Coutts, Dec. 30, at the age of 92 years, will be felt as a great loss by many, among them British bee-keepers. For years she has been the honored head of the British Bee-Keepers' Association, and, notwithstanding her many activities, she has not failed to cheer this Association on its onward course. To her mortal remains has been given the rare distinction of being deposited in Westminster Abbey.

The following items regarding her are condensed from the Chicago Record-Herald:

With the death of Baroness Burdett-Coutts there passes the greatest philanthropist of England—a woman whose charity was world-wide, and whose life linked a distant past with the present day, for she was born during the supremacy of Napoleon, and lived under the reigns of five British sovereigns. For three-score years she has been the most remarkable feminine figure in the British Isles. Coming into possession of a fortune of $9,000,000 when she was 23 years of age, she has, since then, expended $500,000 yearly upon charities and benevolences. In her youth she refused the hand in marriage of the son of Louis Philippe, of France, remaining a spinster until 68, when she married her poor American secretary, William Lehman Ashmead Bartlett, then 30 years of age, and by so doing forfeited the friendship of Queen Victoria, who, in 1871, had created her the first baroness of her name.

A close personal friend of Charles Dickens, she went slumming with him when that was not a fashionable pursuit, and financed many of his great reforms.

King Edward, while Prince of Wales, called the Baroness "the second lady of the land," giving her the next position after his queen-mother, Victoria.

Prime ministers, ambassadors, the greatest writers and reformers of the day sought her acquaintance and favor, while the queen and crown prince attended her levees. No court function was complete without the Baroness Burdett-Coutts, while the homes of the poor and needy knew her presence, and loved her for her generosity.

In 1872 the Common Council of London presented her with an address enclosed in a golden casket bearing her name and arms, on which were bas reliefs representing her acts of mercy, "Feeding the Hungry," "Giving Drink to the Thirsty," "Clothing the Naked," "Visiting Prisoners," "Lodging the Homeless," "Visiting the Sick," "Burying the Dead."

She was honored in Scotland by being made a "Free Woman" of Edinburgh. For her deeds in Turkey, the Sultan gave her the star of the order of the Medjidieh and the Grand Cordon of the Shafakat, the Order of Mercy, a distinction shared by few Christians, and by no other woman.

Ireland was benefitted greatly by the generosity of the Baroness. Immense sums of money have been distributed from her gifts to relieve destitution and want among the Irish peasantry, and one of the most successful of all the philanthropic enterprises was her assistance of the Skibbereen fishermen when famine stalked through the land.

The Baroness was the pioneer of reformatories for women in Great Britain; she provided funds for the topographical survey of Jerusalem, and she was a chief supporter of the Destitute Children's Dinner Society, an organization which provides 300,000 dinners a year. A conservative estimate of the annual donations which the Baroness made to different charities during latter years would place the figure at not less than $2,000,000.

The distress of the Turks during the war

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with Russia aroused the sympathy of the Baroness, and she employed Mr. Bartlett to distribute $150,000 among the needy in the Sultan's dominions. There is a story to the effect that she first met him while she was distributing prizes at a school in North London, and that she afterward sent him to Oxford. However that may be, she was satisfied with his work in Turkey, and afterward married him, to the surprise of all England, the rage of Queen Victoria, and in the face of protests from her relatives. Mr. Bartlett is not her heir, the vast estate reverting to Mr. Money-Coutts, but as the Baroness took care to settle an annual income of $250,000 on her husband, which can not be reached during his lifetime, he is not illy provided for. It is quite certain that their marriage has been happy, and it is known that Mr. Burdett-Coutts is an able man, handicapped, perhaps, because he married such a wealthy woman when there was such a disparity between their ages, but, nevertheless, a valuable member of Parliament, and a clean, honest gentleman, whose investigation of military matters in South Africa created a popular ferment, and resulted in changes for the better in the British army.

More Misrepresentation of Comb Honey

DEAR MISS WILSON:—Allow me to call your attention to an article written by J. H. Kellogg, M. D., in his "Home Hand-Book of Domestic Hygiene and Rational Medicine," on "Adulterated and Artificial Honey." He says that a large share of "strained" [extracted] honey is glucose, and that they have examined specimens in which considerable quantities of sulphuric acid were present, and then winds up by saying:

"It is stated that another very ingenious form of adulteration of honey has been quite extensively practised. What is termed the foundation of the comb is made of paraffin—a wax-like substance made from petroleum. This saves the bees much labor, as they have but to build up the cells on the foundation furnished them; then, to still further economize their time and labor, they are abundantly supplied with glucose in solution, which they have but to transfer to the comb, thus avoiding the trouble of gathering sweets from distant fields. Of course, no transformation takes place in the artificial sugar, it being simply transferred from the feeding-vessel to the comb. Thus we have honey which is wholly artificial, with the exception of a portion of the wax. This certainly caps the climax of adulterations."

There were no less than 700 of these books delivered in our neighborhood less than a month ago, and 90,000, I believe, have been published. Now, what do you say to this statement of one who is taken as authority?

I feel rather well acquainted with you through the American Bee Journal, therefore I take the liberty of writing to you.

We have about 225 colonies of bees at present. AMELIA PETTIGREW.

N. Ogden, Utah, Jan. 2.

It is a sad thing that a man who can wield so much influence should put forth such erroneous and damaging statements under cover of that mischievous, though apparently innocent, "It is stated." Vicious and damaging statements can be made, which will be taken for truth, while the "It is stated" will be lost sight of.

"It is stated"—certainly, many a lie is stated, but its being stated doesn't make it true, and Dr. Kellogg ought to have more intelligence than to aid in the circulation of such malicious nonsense without knowing what he is talking about.

In the first place, foundation of paraffin can not be successfully used. It stretches out of all shape. In the second place, has Dr. Kellogg any proof that bees can be induced to store glucose?

It is a matter for rejoicing that the pure food laws will help to settle such misrepresentations, for the people will soon begin to have confidence that nothing can be safely offered as honey except the Simon-pure article.

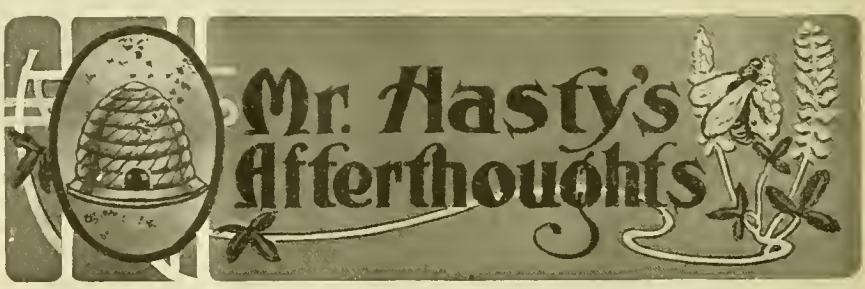
After all, the thing is not as bad as it might be. Even if people believe all Dr. Kellogg says "is stated," your own reputation for uprightness will prevent them from believing that *your* honey is spurious. At least it is so in this locality, for the belief that honey is largely adulterated has made the people more insistent that their honey should be obtained from the apiaries of men or women whom they believed would not stoop to adulteration.

Honey-Paste for the Hands

Honey-paste for whitening and softening the hands: Rub together one pound of honey and the yolks of 8 eggs; then gradually add one pound of oil of sweet almonds, during constant trituration; work in 8 ounces of blanched and ground bitter almonds, and perfume with 2 drams each of attar of bergamot and attar of cloves. This makes quite a large amount. It would be better to experiment with half the portions. Red, rough hands must be kept out of hot water as much as possible. When bathing use the very purest soap you can find, and be sure to thoroughly dry the surface of the hands.

The foregoing is by Mme. Qui Vive, the dispenser of beauty formulas in the Chicago Record-Herald. Even half the amount of materials given may be larger than some of the sisters may care to use. One-eighth the amount is easily figured out, and is as follows: Two ounces of honey; the yolk of 1 egg; 2 ounces of oil of sweet almonds; 1 ounce of blanched and ground bitter almonds; ¼ dram each of attar of bergamot and attar of cloves.

A friend of an economical turn of mind suggests that it is entirely possible that all the hard work of softening and whitening may be done by the first two ingredients; and that the sisters who are not interested in enriching the apothecary might not be far out of the way to try beautifying their hands by beating well together the yolk of an egg for each 2 ounces of honey, anointing the hands therewith before going to bed, and putting on a pair of mittens.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

THE "KISS" OF THE KISSING-BUG.

Isn't it rather remarkable, Prof. Cook, that all the kissing-bugs should be long-headed? Some at least of our moralists would incline to have them short-headed, and short-sighted, and short of intelligence. However, "kiss" in this case is merely bitter irony for the awful stab which they are able to give—sometimes on your face as they crawl onto it from the "kiver" of your couch. Claremont has had 3 victims in 12 years, it seems. Page 1048.

DISTANCE BEES GO FOR NECTAR—LOCATIONS FOR APIARIES

And Doolittle among the heretics, too! Thinks it might do to keep 200 colonies in an average location, and 400 in a specially good one.

But there's no getting rid of the mathematics that four times as many bees can find pasture on a 4 mile range as would equally harvest a 2-mile range. If our bees are working 4 miles, and we think they are only working 2, or if they are limiting themselves to 2 miles, and can be taught to work 4 profitably, we would better "sit up and take notice." Doolittle's assertion that, to the best of his observation and belief, his bees worked profitably on basswood 6 miles away, ought to count for a good deal. One way to teach bees to widen their circle of flight, is to crowd them to it by overstocking the 2-mile circle. I, too, *think* my bees have worked profitably on basswood 4 or 5 miles away. And let us look once more at the Doolittle evidences. With 50 colonies of Italians (the first in the region) 3 miles away, and 300 colonies of blacks much nearer by, the actual count showed every 5th bee to be Italian, as they were working at the apple-bloom. Pretty nearly a knock-down. And at 4 miles, on red clover, the actual count was 10 Italians to 4 blacks—more or less disinclination of black bees to work on red clover here coming in. That there was a vast acreage of red clover nearer to these Italians is here the singular circumstance. Looks as if they didn't care for the difference between 2 miles and 4. (Spend the time during flight evaporating the nectar and so obviate any waste whatever?)

And he wants his ideal location to slope to the southeast. Presuming the prevailing summer wind is southwest there, the same as in most places, I *think* a southwest incline would serve him best—flowers yielding honey much more copiously where the wind is up the slope. This, however, may be only

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a notion of mine. Probably he was figuring mainly on warmer mornings and less torrid afternoons. Page 1048.

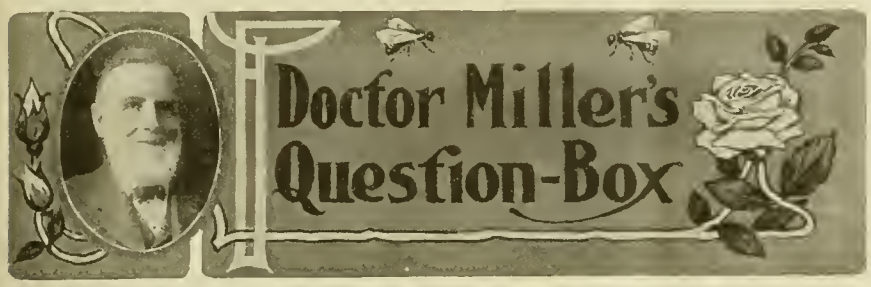
THAT SECTION-CLEANING DISCUSSION.

I, too, was amused at the section-cleaning confab. Some of us are expected to clean 960 sections in a day, and some expected to clean 96—with 2016 as mountain-top beacon to encourage us. The range from 92 to 2016 certainly looks as though it ought to be shortened up somehow. By the way, my toes are getting pinched, too. I indulged in a fling at the T-super because it lets the sections get propolized on the bottom, with the inference that cleaning must take longer. Yet, as my favorite brood-frame does not lend itself readily to wholesale scraping 'pears like I haven't even a glimmer of a chance to draw up to the T-super workers—not even near enough to be counted as an "also ran."

The question, What is a clean section? has hardly been finally disposed of—can not be by one person's preference. I take off the propolis, but don't try to take off the stain which lies under it. I largely *keep* it off, but don't try to take it off. As Miss Wilson uses sandpaper, she evidently doesn't think a section done till the outside flat surfaces are free from stain. I'll guess she doesn't sandpaper the edges—where my propolis lies. Some sections—even some tolerably heavy ones—have half an inside side exposed—pretty apt to be stained and also punctured with small dabs. Looks bad. Wonder if any of the brethren tackle the job of making these spots lily-white—and how, in the process, they keep from breaking the honey that lies so near. Page 1049.

BEES BUILDING ROUND CELLS.

Before somebody slaps me about bees never trying to build a round cell, I would better follow the luminous example of Davy Crockett's coon and "come down"—far enough to confess that the mouth of a queen-cell, when it is in its contracted state, is round—and that fact damages my whole remark badly. Page 1051.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Uncapped Sections in Center of Super—Age of Larvae for Queen-Rearing—Hive-Dummies—Laying Workers

1. What causes bees to leave a few sections of honey uncapped in the central part of a super all filled with honey, plenty of bees and warm weather?

2. As a general rule, will bees, after removing their queen, select a larva of the right age to rear another?

3. Is there any way of placing dummies in a hive in place of combs, and have just as good work done in the sections?

4. In appearance are laying workers different from workers? NEW YORK.

ANSWERS.—1. I don't know, and can only guess. There's a difference in nectar, some of it being ripened up more slowly than the majority. It is just possible that when the bees commenced work in the supers the central sections were filled with nectar of this kind, or with honey that possibly for some other reason they were slow about sealing, and then the rest of the super was filled with honey of a character to be promptly sealed. Another possibility is that the central sections were in some way objectionable, possibly from having foundation or comb that had been used before and left too long in the care of the bees when not being filled, and so covered to some extent with propolis. Still another possibility is that there was brood in the central sections; then after the brood hatched out they were filled with honey which, of course, would be later in being sealed.

2. I believe the general teaching is that when bees become queenless they are in such haste to rear a successor that they select larvæ of too great age to make good queens. I am very sure that this is a libel on the intelligence of the bees, and it is a marvel to me that honest and intelligent men will go on repeating this hoary error when a very little investigation will show that it is an error. I have proved it so hundreds of times. The only sort of ground for such belief that I know of, comes from the fact that bees are not always satisfied with the number of cells started at first, but will continue to start additional cells perhaps a week after being made queenless, when larvæ sufficiently young are no longer present. If left to their own devices, no harm ever comes from this, for these late cells will be destroyed by the young queen reared from the earlier brood. But if you save *all* the queen-cells, giving them to nuclei so as to have queens reared from them, you will have some worthless queens.

It may be worth while to repeat briefly what I have told in the book, "Forty Years Among the Bees," about getting queen-cells started. To a colony of best stock I give a frame with one or two small starters of foundation, and in perhaps 10 days, when the frame is half filled or more with comb, eggs, and brood up to sealed brood, I give it to a queenless colony. I have reared hundreds of queens in this way, and never yet knew the bees to start cells except around the outer parts where there was only young brood.

3. If you put the dummies at either side, the bees will make slower work over them. If you put the dummies between the combs of brood, it will not make the same difference. During the harvest time I have had 2 or 3 dummies in the brood-chamber (but no 2 together), and I could not see that it made any trouble. But I never tried it a great deal.

4. Not a bit. I suppose I have seen hundreds of them—for in every colony with laying workers it isn't a single worker, but a whole lot of them, at the miserable business—but I never could tell which the laying workers were, except one single laying worker that I caught in the act of laying.

Selling Bees to Farmers—T-Super Questions

1. What effect does selling bees to farmers have on the price of honey, considering that the farmers and local stores buy most of the comb honey produced? With such a practise would bees get so numerous that there would be demand for honey in the neighborhood, or do you think the farmers so neglect their bees, usually, that there would still be a demand for some honey? As you are a comb-honey producer, probably you can give some advice about selling bees to the farmers of the neighborhood.

2. How do you fix the ends of the T-supers to make them as long as the hives, both top and bottom? Do you put 2 cleats or strips on the end, top and bottom? If so, how wide, or how do you fix it?

3. Are the thin strips of wood better than an extra set of tins at top of the sections? I was under the impression that the tins were better.

4. I think you spoke of driving the bent staples in level with the wood. If I understand it rightly, the T-tins are supported just the thickness of the staples above the bottom of the super. Am I right?

5. Do you use a follower in T-supers, or only the plain sawed separators for the springs to press against?

6. I have some 10-frame dovetailed hive-bodies that are $\frac{1}{4}$ inch wider than the standard, or 14$\frac{1}{2}$ inches inside. Would you advise cutting them down the $\frac{1}{4}$ inch to prevent thick combs at the sides of the hives, or do you think the space left will allow the use of a thin dummy? I had thought some of using 9 frames and a dummy part of the time if I cut them down, or would you use one at each side? I suppose the T-supers should be made 14$\frac{1}{4}$ inches inside. Then they would not quite fit these bodies. I have not used any of them yet. PENNSYLVANIA.

ANSWERS.—1. If you have enough bees to occupy the field, it is no benefit to you to have bees within your territory owned by others; and if you have not enough to occupy the field, and care to keep more, it will probably be more to your advantage to own the additional bees yourself than to have them owned by others. Besides, there is the objection that slipshod bee-keepers will throw upon the market honey in poor shape at a low price, thus injuring your market. At the same time, slipshod bee-keeping is likely to run itself out. A bee-keeper should not object to others keeping bees near him so long as he has no thought of fully occupying the field, and if he has the field occupied intelligent farmers should have some respect for his claim to the territory.

2. A single strip tacked on at the bottom of the super is enough. No particular matter about the width; I generally use one an inch wide or so.

3. The wood strips leave propolis only at the corners of the sections, while T-tins on top would invite lines of propolis at some distance from the corners. The wood is probably easier to put in place, and it holds the sections square, while a T-tin on top would allow a little variation. Yet these differences do not amount to so very much.

4. The idea is to get the bottoms of the sections as nearly as possible on a level with the bottom of the super, but in actual practise that will vary, for in bending over and driving down the staple it will be sometimes embedded into the wood.

5. A follower. The 1-16 separator would hardly be stiff enough. Possibly it might be an improvement instead of a single follower on one side to have a thinner follower on each side, but I'm not sure there would be room for it.

6. If you want to reduce the width of the

American Bee Journal

hive ¼ inch, wouldn't it be easier to tack a piece ¼ inch thick on one of the inside walls than to cut down the hive? But I wouldn't bother about reducing that ¼ inch. It will be only 1-40 of an inch for each frame, and you'll find that space taken up by bee-glue in a little while. If you want to use 9 frames, a thin dummy at each side would be all right. A super ¼ inch narrower than the hive would work all right.

Don't worry about my being tired answering questions about the T-super.

Storing Pollen in Sections

The bees stored a great deal of pollen in the sections last summer, which spoiled quite a few pounds of honey that would have been salable otherwise. What can I do to prevent them from storing pollen in the sections?

MICHIGAN.

ANSWER.—I know of three things that will encourage pollen and brood in sections. One is to have the brood-chamber too small and crowded. In that case the queen is likely to go up and occupy the sections, pollen following. A second is to have very little or no drone-comb in the brood-chamber and small starters in the sections. In that case the bees will build more or less drone-comb in the sections, the queen will go up for the sake of laying in drone-cells, and pollen will follow the brood. A third is to have shallow combs in the brood-chamber. In that case there is danger of pollen in sections even without any brood in them. Evidently, to avoid pollen in sections, we must avoid the three conditions mentioned. I rarely have any trouble in that way, and I use 8-frame hives with frames 9⅛ inches deep, and have the sections filled full with worker-foundation.

Size of Hives—Transferring—Long-Tongued Italians—Italianizing

Last spring I made a 10-frame hive, and June 16 I bought a swarm of hybrid bees for $1.00 from an apiarist in this neighborhood. The bees did nicely until Aug. 30, then they cast a big swarm. I hived them back on the old stand. I then extracted 3 gallons of honey to give them more room, and they went on with their work as if nothing had happened. When I put them into the cellar, Nov. 21, the whole weight was 70 pounds, so I think they have plenty of stores to carry them through the winter.

Late last fall I bought from the same apiarist 3 colonies in 8-frame hives at $3.00 per colony. They were strong, and had plenty of stores, so there is no reason why they should not winter all right, and as I have a good cellar. As the hives of those I bought are poor, I will make new ones. I have been thinking of making 12-frame hives, and running them for extracted honey only.

1. Would you advise making them 12-frame? The apiarist here claims that the 12-frame is the best.

2. When would it be best to transfer the bees from the old hives into the new ones? Will it be all right to do it in the spring when I take them out of the cellar, or should I wait till later, when the weather is getting warmer?

3. Will the so-called long-tongued Italian bees gather honey from red clover?

4. As I would like to get some Italian bees, how would you advise me to do it? Should I send for queens and introduce them? If so, when would be the best time to do this? Or, should I buy some nuclei and rear them that way?

WISCONSIN.

ANSWERS.—1. Yes, if run for extracted honey only, 12 Langstroth frames will be none too large. The Dadants are among the most successful producers of extracted honey, and their hives are fully as large in capacity as 12 Langstroth frames.

2. It depends a little upon circumstances. If you transfer from a frame of one size to a frame of another size, so that there will be little to do on the part of the bees in the way of building or mending, you can do the work early, on any day when it is warm enough for bees to be flying briskly all day. If there is much building or patching to do, better wait till fruit-bloom. Perhaps you may do still better to wait till the bees swarm, hiving the swarm in the kind of hive desired, and then transferring 3 weeks later, when all the worker-brood will have emerged.

3. I'm afraid not all of them. There are strains that will be better than others on red clover, and there are also times when red clover is in such condition, either by having its corollas unusually full or by having them shorter than usual, when even black bees will work on it. So you see it's a little hard to be very exact and definite about the matter.

4. Probably it will be as well for you to get one or more queens. It will cost less.

Reports and Experiences

Weather Mild and Rainy

The weather has been very mild and rainy here since the last days of December. I doubled my 133 colonies of bees up (or down) to 108 for winter, fed until all hives were rather hard to lift, and believe that all will come through to the next harvest in good condition.

EDWIN BEVINS.

Leon, Iowa, Jan. 7.

Sweet Clover Honey Called Alfalfa

I saw an advertisement in a paper the other day of alfalfa honey. That honey came from Emery County, and it was sweet clover honey. There is a great difference in sweet clover honey in Utah, just the same as with fruit. The flavor depends upon the kind of soil the article grows on. It seems the best and clearest honey comes from clover that is grown on heavy and mineral clay or sand land, gravelly or black soil not being so good.

I have 81 colonies of bees, and last year was my first experience with them. I like the study better than any thing else I ever worked at, and I have worked for myself 24 years. I expect to increase my bees to 150 colonies next season. I have one of the best pastures in the State, with willows, sweet clover, alfalfa, and wild flowers in early spring; alfalfa and sweet clover from July 1. My bees have at least 300 acres of clover and alfalfa within 2 miles. If you want any more information about this country, I will be at your service. C. N. SHINER.

Emery Co., Utah, Jan. 1.

Very Poor Crop in 1906

We have had a poor season here in the northeastern part of Wisconsin. The crop turned out very poor for 1906. I started out with 65 colonies, but got only 1500 pounds of honey. Bees in the spring didn't seem to build up so fast as they ought to. It looked as if they had brood enough, but the old bees died off too fast till in June, and when we were looking for honey from clover, which is our main flow for surplus honey, drouth set in, and it got so dry and the result was—no honey. September 12 I went to the Manitowoc County Fair, where some of the members of our Association had some exhibits. On Oct. 3, 1906, the Northeast Wisconsin Bee-Keepers' Association held its annual convention in Mishicott, Wis., and members there reported the crop very small. After coming home from the convention, we took all the supers off the hives which were mostly empty, so no fall honey to bother with. Then we got our bees ready for another winter. We passed the summer and fall living in hopes for 1907 to prove a better year for honey. Our winter so far is mild. Only two mornings it has shown two degrees below zero, but no snow, which may cause the clover to be winter-killed. We will wait for next summer to furnish proof. C. H. VOIGT.

Tisch Mills, Wis., Jan. 17.

Many Colonies Needed Feeding

The bee-business has been a failure in this county. A good many colonies of bees were starved out before fall. There will be a good many empty hives by spring, unless there was a good deal of feeding last fall. I had to feed most of my bees. A few of my best Italian bees had a little surplus honey.

ANDERSON YORK.

Bloomfield, Iowa, Jan. 4.

What is Leading Factor In Cause of Swarming?

Is it zinc excluder or extra room that is the leading factor in the so-called methods of non-swarming?

If I rightly understand, the success in non-swarming is invariably conspicuous when the excluder is used in connection with excess or abundant empty combs or foundation.

It would be pleasant, if not profitable, to know which of the two is responsible—the zinc or the combs.

I would like to learn if any one has made a success of non-swarming in 10-frame Langstroth hives without zinc, or even with zinc. All the experiments that have come to me in *definite* form have been made with 8-frame hives, and colonies in such hives have been regarded as more likely to swarm than larger sized. I wonder if a great many things are not taken for granted.

T. F. BINGHAM.

Farwell, Mich., Jan. 3.

Favors 2-Pound Sections

On page 48, R. E. Merrill writes on the subject of the size of sections, and it just suits me. I had thought of it a good deal before. I think it would be much better for the bee-keeper, and much cheaper, with a 2-pound section. I would be willing to try 1000 this year if I could get them. I know I could produce comb honey cheaper in a 2-pound section. It would take less comb foundation, and we could put it in a 2-pound section as quickly as in a one-pound. I sell a great deal of honey at home at 15 cents a section, or 2 for 25 cents, and they will take the 2 almost every time. I have always used the 4¼x4¼x1⅞ bee-way section. I have kept bees for over 20 years. I had

American Bee Journal

thought of the subject a good deal before, but did not mention it. Mr. Merrill's article tells my mind exactly. I think all bee-keepers should consider the matter as to the expense of producing comb honey in 2-pound sections instead of one-pound, as it would be a great boon to us. I do not know whether the manufacturers of sections would be against us or not, as it would take fewer sections and less foundation, and a good deal less work for the bee-keeper. I know I can make the change in my supers and other things the first year, and still be ahead some.

JOSEPH RICHARD.

Chautauqua Co., N. Y., Jan. 19.

[Any of the section manufacturers will make 2-pound sections if ordered ahead of the rush season—say any time before May 1.—EDITOR.]

Poorest Season in Over 30 Years

The honey season of 1906 was the poorest since I have been in the business, now upwards of 30 years. I got absolutely no surplus honey. In fact, I had to spend about $150 for feed for my bees. But I have kept everything in good shape, and I will be ready for a crop when it comes. This is the first entire failure that I have had in my long experience. In 1903 I made $2000 clear profit out of my bees. In 1904 I made $1200. In 1905 I made $800. In 1906, nothing. The average per year for the 4 years, $1000. Not so bad after all, when you consider that those 4 years include the only entire honey-failure that I have had in more than 30 years; and also when you consider all the other irons I have in the fire, besides.

E. J. BAXTER.

Nauvoo, Ill.

Bees May Have European Foul Brood

I have not been keeping bees for a number of years, but I intend to have some again if I can make a deal for 150 colonies of Italians that are on the place where I live. They seem to have plenty of honey for winter, but are affected with what is called "black brood"—something similar to foul brood—so they tell me here. I have not opened any of the hives to see the condition they really are in. I moved into this valley only a short time ago, and, from appearances, it ought to be a fine locality for bees, since there is an abundance of sweet clover and alfalfa, with plenty of willow and fruit-bloom to give the bees an early start. But from what I can learn, the honey crops of last year and the year before were pretty short ones. I am told, however, that bees used to do very well here. The difficulty might result from the condition the bees are in, since they told me the young bees died in the comb, which, if a fact, would keep the colonies weak; so if there were ever so many blossoms in the field there would not be enough bees to gather the nectar, hence a short crop would result. I will know more about the matter and conditions later.

JACOB WIRTH.

Montrose Co., Colo., Jan. 16.

[It is unfortunate that Mr. Wirth has not been getting the American Bee Journal the past year or two, as we have had so much in it about black or European foul brood, and other brood-diseases. However, we are sending him a copy of something containing the information he wants. We are always glad to help out any bee-keeper, whether he reads the American Bee Journal or not, but, of course, we have not room to repeat so much as is sometimes requested. When he was a bee-keeper in Illinois, Mr. Wirth read the American Bee Journal for years. We hope he may soon be a regular subscriber again.—EDITOR.]

Peculiar Odor of Aster Honey

The year 1906 was a rather poor one for bee-keepers in this section. I had 37 colonies, spring count, increased to 42, and got 100 pounds of comb honey and 900 extracted. The only sections of comb honey I got last year were the unfinished sections left over from the previous season (1905), which I used for "bait sections," and the rest of the sections in the super were not touched except to daub on propolis and gnaw the foundation. I would not have had any extracted honey if it had not been for a supply of extracting combs which I put away carefully each fall for the next year's use. We had a fall flow that filled the hives with honey for winter stores, and gave a few gallons of extracted honey. This fall flow was from wild asters, and is of good color and weight, but rather strong for table use. It also granulates very quickly. When the bees are gathering this aster honey, the hives give off a rank and somewhat sickening odor, which can be detected for quite a distance away.

American Bee Journal Novelty Pocket-Knife Gold Fountain Pen All for **$3.00**

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Worker

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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Queen

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Drone

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American Bee Journal

When an apiary contains 40 or 50 strong colonies of bees, and the aster honey is coming in rapidly, the odor from the hives full of raw nectar can be detected a hundred yards from the apiary, if the atmosphere is in the proper condition. This odor disappears as the honey ripens and the flow ceases, and when the honey is extracted and exposed to the air a few days it nearly all disappears; but the strong taste never entirely disappears. It is as strong as the flavor of basswood or linden honey, and not nearly so pleasant. The only way that I can describe the flavor of this aster honey is that it has a somewhat sickening taste, especially when first extracted.

I see articles in the American Bee Journal, and in other bee-papers, on home-made hives, and as I make nearly all my own hives I sometimes feel tempted to "butt in" and give some of my experience in hive-making. I will write a short article on that subject soon. D. E. ANDREWS.

Bloomington, Ind.

Honey-Dew on Pine-Trees

We are having a real flow of water-white honey-dew on the pine here in Polk county. It has been on now 2 weeks. Bees in general are in bad condition here. LUTHER PRESSWOOD.

Reliance, Tenn., Jan. 18.

Rather Short Honey Crop

The honey crop was rather short last season compared with previous years, but I am living in hopes of a better season coming soon. Our white clover seems to be wintering fine, so far, but why should it not? We have had no cold weather to speak of yet.

L. W. ELMORE.

Fairfield, Iowa, Jan. 3.

CONVENTION NOTICES.

Indiana.—There will be a meeting of Indiana bee-keepers at the State House, room 12, Wednesday, Feb. 6, 1907. There will be a morning session at 10 o'clock and also an afternoon session. The united efforts of those interested are urgently requested and it is planned to reorganize our State Association. It is expected that some very important business will come up at this meeting, the most important being an effort to secure a Foul Brood Law for this State. I hope *you* will arrange to be with us on that date, and at the morning session. In case you find it impossible to attend the meeting I wish to urge the importance of having you use your influence in securing the much-needed Foul Brood Law, WALTER S. POUDER.

Indianapolis, Ind.

Wisconsin.—The annual meeting of the Wisconsin State Bee-Keepers' Association will be held in the Court House, at Madison, Wednesday and Thursday, Feb. 6 and 7, 1907. Reduced rates on all railroads, but if you cannot obtain them, ask your agent for full fare receipt.

Every person may become a member, for one year, by the payment of $1.00, which will also make him a member of the National Bee-Keepers' Association, which alone costs $1.00; and every member of the National, not a member of the State, should pay his dues to the State Secretary, and for the same money, become a member of both. Ladies may become members by the payment of 50 cents for National dues. Kindly make remittance for membership dues before the meeting, to the undersigned.

Augusta, Wis. GUS DITTMER, Sec.

A Word To Our Readers.

Those of our readers who expect to purchase a vehicle of any kind in the near future should pay particular attention to the advertising of the Ohio Carriage Manufacturing Company which appears in this issue.

The Ohio Carriage Manufacturing Company are old and well-known advertisers, and have built up an immense business on their full line of Split Hickory Vehicles. They manufacture every style of Vehicle, and can supply the needs of the most discriminating buyer. They also make a full line of Harness, and can furnish the best there is in that line.

This Company has earned a wide reputation for fair and liberal treatment of all its customers and has succeeded in making SPLIT HICKORY VEHICLES the best-known and best-liked Vehicles on the market.

Mr. H. C. Phelps, the President of the Ohio Carriage Manufacturing Company, is a splendid type of the American business man, and makes a point of keeping in close personal touch with each individual buyer of Split Hickory Vehicles. He is making a particularly attractive offer at the present time—one that cannot fail to interest the most particular purchaser. He is also offering to send FREE to anyone who asks for it his Big Catalogue of Split Hickory Vehicles—and we strongly recommend anyone who is thinking of buying a vehicle of any kind in the near future to write for this book. It contains a lot of information valuable to the prospective purchaser.

Some idea of the size and completeness of this catalogue can be gained by the fact that it brings right into the home of the buyer—where he may carefully select at his leisure—descriptions and illustrations of a line of Vehicles equal to the stock carried by ten ordinary retail buggy dealers. If you are interested in Vehicles of any kind, this Big Book will be of immense value to you

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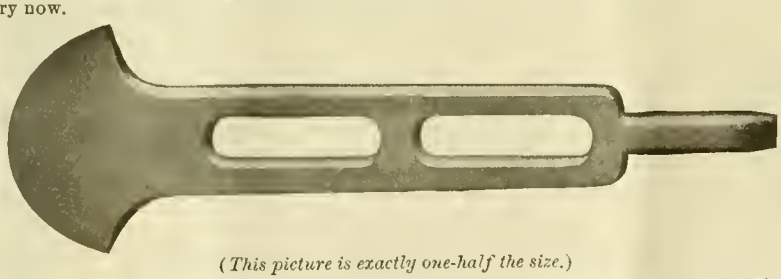
Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



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DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1¼ inches long, ⅝ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

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Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c. R. A. BURNETT & Co.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.
C. C. CLEMONS & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15. — The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.
HILDRETH & SEGELKEN.

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3.20; No. 1 light amber, $3; and good No. 2, at $2 80. White extracted, 8@8½c; light amber, 7¾@8c. Beeswax, 26c for clean yellow, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

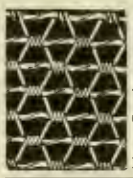
CINCINNATI, Jan. 9—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14½@16c. Extracted amber honey in barrels, 6@7c; fancy light amber in cans, 7@8c; fancy white, 9c. Strictly choice beeswax, 30c, delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.
C. H.W. WEBER.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.


FENCE *Strongest Made*
Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today
COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

75 Cases Amber and Buckwheat Comb Honey

(24 sec. to case) $2.30 per case; White Comb, $2.75 per case.

BEES AND QUEENS in season. Can furnish bees on Danzenbaker or Simplicity frames. Free Circular.

QUIRIN-THE-QUEEN-BREEDER
5A2t Bellevue, Ohio.
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WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

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C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
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29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

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American Bee Journal

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Mentio Bee Journal when writing.

QUEENS By uniting swarms from 1000 colonies **NUCLEI**

I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1 75.

4A13t R. M. SPENCER, Nordhoff, Calif.

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Our Discounts on

BEE-SUPPLIES

are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them? Have you read our Catalog?

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
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We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken

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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

AMERICAN BEE JOURNAL

47th Year CHICAGO, ILL., FEB. 7, 1907 No. 6

Herbert Freas, of St. Anns, Ont., in a Buckwheat Field.

Mr. and Mrs. Wm. C. Gathright, Starting on a Camping Trip.

(See page 106)

Apiary of H. E. Gray, in Saratoga Co., N. Y.

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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Nothing less than ½ inch accepted.

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Goes to press Monday morning.

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Objects of the Association.

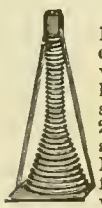
1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.
Gape Worm Extractor 25c
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Capon Book Free.

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Please mention Bee Journal when writing advertisers.

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

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Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like t best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ✻ POLITICAL ✻ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

Why Not Send Your Friend a Bee-Valentine

THE BEE-KEEPERS' SOUVENIR POSTAL CARDS

O WONT YOU BEE MY HONEY
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

are just the thing.

We send them by Return Mail.

As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10 cents (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25 cents. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
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GEORGE W. YORK & CO., 334 Dearborn Street, CHICAGO, ILL.

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

Lewis Goods at 1 percent Discount DURING MARCH, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. **191 AND 193 SUPERIOR ST. CHICAGO, ILL.**
(Three blocks north and one block east of our old location.)

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.

Mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.
Samples of Honey analyzed. Correspondence solicited.

Send for free Catalogue.

Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.

Stock & Poultry FENCE

Many styles and heights, Diamond or Square Mesh; prices low. **Sold direct on 30 days free trial,** freight prepaid. Catalogue free.
KITSELMAN BROS.
Box 85. **Muncie, Ind.**

Mention Bee Journal when writing.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

Write for prices on *Finest Extracted Honey.* Certificate guaranteeing purity with every shipment.

SPECIAL DISCOUNTS on early orders for **Supplies...**

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

American Bee Journal

Trade Notes. The A. I. Root Co., Medina, Ohio.

Photographic Competition

We are pleased to announce another series of prizes for the best photographs submitted to us, as described below, in two series, American and Foreign, under the following conditions:

FIRST.—The competition opens January 15th, and closes October 1st, 1907. All photographs intended for this competition must be in our hands by the last-named date.

SECOND.—Competition for these prizes is limited to bee-keepers or some member of the family. Entries may be made for as many different classes as may be desired.

THIRD.—A photograph entered in one class can not be entered in any other class.

FOURTH.—Each photograph should be marked on the back with the name and full address of the sender, and the class in which it is entered. This is important.

FIFTH.—In judging the photographs, the general appearance, neatness, etc., of the apiary, or exhibit, or yard, will be taken into consideration. Photos may be sent unmounted. We rather prefer them this way, and in a solio or reddish-brown if possible. However, send such as you can get most easily.

SIXTH.—With each of the photographs submitted we would like a brief statement of the conditions under which the apiary was photographed or honey produced, or similar information regarding the photograph. This should be limited to about one hundred words.

SEVENTH.—All photographs and correspondence regarding the same should be addressed to Advertising Department, GLEANINGS IN BEE CULTURE, Medina, Ohio.

EIGHTH.—We reserve the right to limit the number of awards or withhold any award if no photo worthy is entered in the class.

AMERICAN COMPETITION
(Including Canada and Mexico)
AND
FOREIGN COMPETITION

The following are the classes in which entries may be made:

CLASS A.—Photographs of any apiary in village, town, or city.

CLASS B.—View of an apiary not exceeding six hives in town or city.

CLASS C.—Apiary in town or country of not less than six hives or more than fifty hives.

CLASS D.—Apiary in town or country of fifty hives or more.

CLASS E.—Photograph of comb honey produced by a single colony of bees; not less than ten sections, and this preferably in plain sections.

CLASS F.—Photograph of a bee-keeper's home, showing some view of the apiary if possible. The apiary need not be prominent in the picture, however.

CLASS G.—Photographs of a crop of honey from any number of colonies, six or more.

CLASS H.—Photographs of any apiarian exhibit of bees, supplies, or honey taken at fairs or shows of any kind.

CLASS I.—Photographs of any work in the bee-yard, such as hiving swarms, extracting, or any other operations with the hive.

CLASS J—Photographs of any other subject relating to bee-keeping not classified above.

PRIZES

	Value, Postpaid
FIRST.—One leather-bound "A B C of Bee Culture," 1907 English edition, or cloth-bound French or German	$2.00
SECOND.—One-half leather "A B C of Bee Culture," 1907 English edition	1.75
THIRD.—One "How to Keep Bees" and any two Swarthmore books	1.50
FOURTH.—One full cloth-bound "A B C of Bee Culture," 1907 English edition	1.20
FIFTH.—One "How to Keep Bees," by Anna Botsford Comstock	1.10
SIXTH.—No. 1 bee-veil, all silk	.80
SEVENTH.—No. 2 bee-veil, silk face	.50
EIGHTH.—One illustrated book, "Bee Culture in Foreign Countries"	.50
NINTH.—One Bee Model, Queen	.50
TENTH.—One Bee Model, Drone	.50

Ten prizes are offered for each class: Ten for Class A, Class B, Class C, Class D, etc.—one hundred prizes for American contest, and one hundred prizes for the Foreign contest; two hundred in all if that number of entries are received, the prizes offered being identical for each class for the American competition and for the Foreign.

If the winner of any certain prize already has the prize offered, we will, on request from him, furnish a selection of other items from our catalogs, of equal value.

Danzenbaker Prizes

It is to be regretted that so many bee-keepers are satisfied to produce year after year a very ordinary grade of honey as regards its appearance, when by a little more care, and having more suitable fixtures, and by taking the honey from the hive at just the right time, a much larger percentage of "fancy," or "extra fancy" honey could be produced, which would sell at a much higher price. The experience of honey-merchants generally is that there is no difficulty in disposing of large stocks of fancy or extra fancy, even when the market is dull. It is the inferior grades that suffer most at these times. We believe, too, that bee-keepers would be very much better satisfied with their season's work if their best efforts were made to produce a really fine product. To increase further the interest in extra fancy honey, the following prizes are offered for honey produced in Danzenbaker hives during the year 1907, under the following conditions:

FIRST.—As above stated, the honey must be produced in a Danzenbaker hive, either the present style or any Danzenbaker hive that has been put out within the last few years. These hives may be had of any dealer in bee-keepers' supplies in any part of the country.

SECOND.—For Classes 1 and 2 we require a shipment of approximately the amount stated, to be made by the bee-keeper direct to us at Medina. After the prizes have been awarded the honey entered for competition in Class 1 or 2 will be held subject to the instructions of the producer. We will sell it at 5 percent commission, or we will ship it to any point direct by freight or express. There being good honey markets in our immediate vicinity, such as Columbus, Cincinnati, Cleveland, Buffalo, and Pittsburg, it can be disposed of without difficulty at good market prices, and the shipper will not have to lose a good market by shipping it here. Neither the honey awarded a prize nor that which obtained no prize is to be our property, but will be sold subject to the instructions of the producer who sends it to us. We are interested only in inspecting it to award the prizes.

THIRD.—For all honey submitted for prizes we must have a definite statement from the producer regarding the conditions under which it was produced, whether a light or heavy flow of honey, how the colony was handled, how many colonies in the yard, from what source produced, etc.

FOURTH.—For Classes 3, 4, and 5, we must, in addition to the above report, have the signature of two witnesses, certifying to the correctness of the report. If the party who sends us the report for the competition is well known to us we shall not require these witnesses. References may be given instead of the signature of witnesses if desired. All parties intending to compete for these prizes should send for blanks which we will furnish, on which the report may be made out.

FIFTH.—It will be noticed in the last three classes, three to five inclusive, that it is not at all necessary to send us the honey—all we require is a report.

SIXTH.—We reserve the right to limit the number of awards in each class, or to make no awards in a class if there are no satisfactory entries for the same.

SEVENTH.—No contestant will be awarded more than one prize in each class, but may make two entries if desired—one in Class 1 or 2, and another in Class 3, 4, or 5.

The classifications for the prizes are as follows:

CLASS 1.—For best shipment of 200 lbs. of comb honey in Danzenbaker sections.

CLASS 2.—For best case of comb honey in Danzenbaker sections.

CLASS 3.—For best report of yield from single colony in Danzenbaker hive.

CLASS 4.—For best report of yield from five colonies in Danzenbaker hives.

CLASS 5.—For best report of general results from use of Danzenbaker hive.

For each class there will be ten prizes as follows:

FIRST.—$10.00.
SECOND.—$7.00.
THIRD.—$5.00.
FOURTH.—$2.00.
FIFTH TO TENTH.—$1.00 each.

This is the time to decide to enter this competition. No matter where you live, whether in the United States or elsewhere, you can certainly find one class in which you can make an entry; and as there are ten prizes in each class, we believe that no one will be greatly disappointed in the results unless it is ourselves, and we hope that we shall not be, but see a large number of entries. Even if you fail to get a prize, you will doubtless have increased the value of your own product by your efforts to produce some big results or an extra quality of honey.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., FEBRUARY 6, 1907 | Vol. XLVII—No. 7

Value of Honey as Food

Mr. Harry Lathrop, one of Wisconsin's leading bee-keepers, sends in the following on the use of honey as food:

Happy the man who can eat all the honey he desires—and has the honey to eat!

I have met not a few, who say they can not eat honey, having had an overdose when they were young. I usually find, on further inquiry, that it was on the occasion of the cutting of a bee-tree that they gorged themselves on the sweet, were made sick, and ever after nature rebelled against that which had caused pain and trouble.

It is easy to see how one could overdo in this way, at a time when one has tramped through the forest until tired and hungry, then endured the excitement of felling the tree and having suddenly a lot of honey exposed in the most tempting manner, with combs broken and dripping, and having the delicious flavor of wild honey. The men and boys at such times are apt to forget that honey is a concentrated food, of high nutritive value, and should be eaten with lighter and more bulky foods, unless only a little is taken. If they would take the precaution to carry along a jug of sweet milk, and some nice light bread, they could enjoy a feast there beside the fallen bee-tree that would be fit for a king, and there would be no bad after effects, no disgusted stomach to protest in after years.

But if those who have been indiscreet will teach their stomachs that there is really no harm in a little honey eaten properly, I believe they would soon be able to use honey again with safety and satisfaction.

I find that honey is a good winter food here in Wisconsin. I use it daily, and am almost entirely free from colds and sore throat, of which there seems to be a plenty among the people around me.

If only all the people would leave off the use of tobacco, and other like things, and use the money, so wasted, in the purchase of honey, and nice butter and milk, how much better health they would have; and the bee-keepers would have a much better market for their honey. HARRY LATHROP.

The foregoing is a good sample of the kind of reading matter that should appear in the newspapers throughout the country, to help create a more general demand for honey. Mr. Lathrop speaks from experience concerning the value of honey. Such testimony is valuable. No doubt many other bee-keepers could duplicate what he says. Why not all who can, just write something like the above for the local newspaper? Almost any of the editors of such papers would be glad to publish it. It is a work that is helpful in two ways—it benefits the public to know the true value of honey as food, and it should help the producers of honey to secure an increased demand, which doubtless would result in better prices being realized for table honey, at least.

Black Bees vs. Italians

On page 909 (1906), some comments were made upon a controversy between two British subjects—one in Australia and one in Scotland. Referring to this, the "party of the second part" writes as follows:

"IN ALL THINGS CHARITY."

Yes, Mr. York, your motto, text, a precept—whichever way we regard it—is an admirable one. But the pity of it is that we rarely call it up to memory except when counselling the "other fellow." It is perhaps a vice of the age that too many of us—

"Compound for sins are inclined to
By damning those we have no mind to."

Now, I have no objection to anything you wrote on pages 909 and 910 (1906), and I will not even cavil at the word "savagely," but charitably presume it is merely a misprint for "severely." Hurriedly written, they are similar! Our Antipodean brother is evidently prepared to write me down an ignoramus, at which I am not greatly concerned; but you kindly stop short of this, for which thanks. Believing with the poet that "there is no darkness like ignorance," I will most readily eat humble pie if I am wrong, and even gratefully thank the benefactor who enlightens me. Your article all over is very fair-minded, and you in particular grasp two essential facts, viz.: that there are blacks and blacks, just as there are Italians and Italianns, and that even the blackest blacks are not so black as they are painted. To confirm you in the first belief, I can assure you that, not only in the British Isles, but over a large area of Continental Europe, they are the predominant race, and *the bees to pay*. To convince you on the second head, let me take you on a trip, in spirit, to far away Australia.

In the corresponding issue of the Australian Bee-Keeper there appeared a glowing account of the excellent returns obtained from about 40 colonies of blacks, and the writer had no word of his hives being wiped out wholesale or otherwise.

Again, in the current number of the same bee-paper, you can have further proof, at first hand, in favor of my side of the question. At the conference of the Victorian Apiarists, the president stated that "he did not agree with the statement that black bees have a weaker constitution than Italians." Mr. D. Morgan, a gentleman who should know, considered that "it was proved, that when an Italian colony gets these diseases it is *worse* with them than with blacks." Mr. Anderson, who read an informative paper, stated decidedly that, as the fruits of a good deal of experience, he could affirm that "he introduced foul brood when he introduced Italians and goldens." Mr. Beuhne, a leading apiarist, insisted on the fact that "too much was claimed for Italians that is not characteristic of the race." Finally, one gentleman even suggested that it might be advisable "to introduce blacks to improve the strain."

It is facts we want, strike as they may. If I am an ignoramus, I err in good company. Quoting from the same book as you did, I would say, "In the multitude of counsellors there is wisdom"—and truth.

That blacks are not an effete race even in Australia, is proved in the last Bulletin, and that, too, by a breeder of Italians who has 40 years' experience behind him. On page 143, Mr N. Abram writes: "When the bees of an apiary prosper so as to be rather above the average under the prevailing conditions, then, no matter what kind of bees they are, blacks or Italians, there is no need to interfere."

Again, even Mr. Tipper himself goes far to confirm my contention, for on another page of the very same paper, where he falls foul of my condemnation of the unfair treatment accorded to blacks, he tells so woeful a tale of the deplorable condition in which he found his own apiaries, and the heavy losses (50 to 75 percent, I think), that one would conclude that his colonies were all headed by the despised and reviled black queens, unless that we are expressly informed that they were Italians, carefully bred from the best blood in the world, and the result of 25 years' careful selection. No wonder Mr. Morgan, at the

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convention, was moved to ask, "Is it possible to import black bees to improve the strain?"

Now, most questions have two sides, and what I would object to is the fact—for it is a fact—that your American bee-keepers write as if blacks were a useless and effete race. The "charity" you desiderate should in the future make you more cosmopolitan. Chicago and a hundred miles around is not the world, and the same, of course, holds true of Banff. Is it not *you*, in light of the facts I have placed before you, that do not take sufficiently into consideration "locality?" I have consistently upheld the good points I have found in blacks, but I have at the same time shown charity to Carniolans and Italians, and am ready to champion their many good points. I am heartily with you in all that has recently appeared editorially in the American Bee Journal on "improvement of stock." If apiarists would devote more time and thought to developing the good that is in all the 3 races, the apicultural world would be nearer the bee-paradise we sometimes hear about.

Banff, Scotland. D. M. MACDONALD.

That is a good defense of the black bee, Mr. Macdonald—a strong defense—and all the stronger because you are careful to keep truth on your side. Advocates of Italians would say it is one-sided, and it is entirely right that it should be so, because you are not trying to advocate Italians. So it is only fair to present some points that advocates of Italians would be likely to make.

Preliminary to that, a word as to the one point of controversy between us. It is not necessary to suppose that "savagely" was a misprint for "severely." The dictionary gives one definition of "savagely:" "[Colloq.] very severely; as, *savagely* criticised." It may be said that this is an American colloquialism; at any rate, it is a common use of the word here; and in this sense you will no doubt think it correctly used.

Admitting that Messrs. Morgan and others held the opinions quoted, is it not true that the majority of Australian bee-keepers hold the opinion that blacks succumb more readily than Italians, especially to foul brood?

Suppose Mr. Anderson introduced foul brood with Italians; what does that prove? Has any one ever claimed that Italians are immune to foul brood? Suppose Smith had the best bees in the world, and Brown the poorest; that foul brood attacked Smith's bees, and through them the disease was conveyed to Brown's bees; would that prove in the least the superiority of Brown's bees?

Suppose that Editor Tipper lost 50 to 75 percent of choice Italians; is there any proof that if they had been blacks the loss would not have been 100 percent?

It is true that "Chicago and a hundred miles around is not the world," but Chicago and 3000 miles around is all of the world, practically, for American bee-papers; and within that radius it is the right thing for them to say that the blacks are inferior. Perhaps you may not know that on this side opinion is not divided as it is on your side. In England blacks probably take the lead, and at the same time there are leading bee-keepers there who prefer Italians. It is not so in this country. Practically, no one prefers blacks. If, then, an American editor be asked by a beginner as to which is the better bee, he answers, "The Italian," without stopping to add, "but in Switzerland the black is better." What is Switzerland to the American beginner? Likewise the editor of the very excellent bee-paper published in Switzerland would be likely to reply that blacks are the better bees, without adding that the reverse is the case in America.

So you see that so long as there are no "two sides" to the question on this side, American bee-papers are hardly to be blamed for giving only the one side. All this is said, as may be gathered from what was said on pages 909 and 910 (1906), with full recognition of the difference between such matters in this country and yours. If climatic differences have not too strong a bearing in the case, the possibility may even be admitted that the best blacks in England are better than the best Italians in America—at least, such a possibility may be admitted until trial is made. Are you sure you can furnish us the Simon-pure blacks without the least taint of Italian blood?

Packages for Extracted Honey

Discussing this subject in the Canadian Bee Journal, and largely from the stand-point of personal experience, J. L. Byer says:

While the experience of extensive retailers seems to prove conclusively that for the town trade it pays to put up honey in glass, yet to the writer's mind it seems doubtful whether this is true as regards the country and village trade. For example, in a village near us of 1200 population, last year, over 2000 pounds of honey was sold in packages of 10 and 5 pound pails. To my knowledge, not a single pound was sold in glass, and I can hardly think that so much honey would have been sold provided the honey had all been put up in 1-pound packages.

On the other hand, it might be argued that some who would pay 15 cents for a single pound would never think of investing 50 cents at one time for a 5-pound pail. In fact, Mr. Hand said he knew of one family who annually bought over 150 pound-bottles, who would never think of buying a 5-pound pail at one time.

Personally, I feel inclined to think if there were no pound packages in sight that more than likely the same family would buy 5-pound pails, and incidentally come to the conclusion that it was much the cheaper way of buying honey.

From the producer's standpoint there is not half so much work in selling in pails as there is in putting up in glass; and in the case of the pails being used, the consumers become educated to the use of honey in the granulated form, and it is surprising how many become partial to honey in that condition.

All things considered, while I would not discourage any way of increasing the sale of honey, yet in my trade, after taking into consideration the demand in my own locality, I feel a bit slow about investing in glass so long as I can sell in tin packages as readily as in the past.

The National Association had 2201 members on Jan. 30, 1907. Why not make it 2500 by April 1—that would be only 150 a month for this month and next? If more convenient, you can send your dues to the office of the American Bee Journal, and we will forward them to Treasurer France.

The Apiary of H. E. Gray, appearing in the picture on the first page, was thus described by Mr. Gray when sending us the photograph from which to make the engraving:

The photograph herewith shows a portion of apiary on Moreau Farm, in Saratoga Co., N. Y., consisting of about 125 colonies, principally Carniolan stock with a few Italian colonies. I run for comb honey mostly, using 1¼-pound sections, and a double brood-chamber interchanging with the super, the former taking 8 frames and the latter 24 sections.

My spring count, in 1906, was 76 colonies, which produced not far from 1½ tons of surplus honey, comb and extracted, which I have no trouble to market at near-by towns. This locality produces a fine quality of basswood and clover, with some buckwheat, etc.

I winter my bees on the summer stands in pairs, by closing together, then putting a winter-case around and filling in with dry material, such as leaves, chaff, etc.

Last season was my first experience in bee-keeping, while engaged in the jewelry business. On April 1, I disposed of my business to take up bees with thoroughbred poultry as a means of livelihood. I have a great deal yet to learn, and look to the American Bee Journal for a good share of it.

H. E. GRAY.

Mr. Freas in a Buckwheat Field.—When sending the picture shown on the first page, Mr. Freas wrote thus:

I send a picture of myself standing in a buckwheat patch on a hillside on the farm on which my great grandfather settled some time in 1700. My grandfather, my father, and myself, were born on this farm, and have lived here all the time. Father is living, aged 71 years.

The hat I am wearing does not go out of style in this locality.

No liquor nor tobacco has been used in our family for three generations.

HERBERT FREAS.

P. S.—I forgot to add "B. A." to my name. That means "Bachelor Apiarist." I have been a bee-keeper for over 15 years, and have 24 colonies now. The quality of the honey last year was very poor, and not much of it.

H. F.

Mr. and Mrs. Gathright, of California, as they appear when starting for a camping trip, is shown on the first page. The following is what Mr. G. says about it:

I enclose a photograph of two bee-keepers and their outfit starting on a camping trip. The bee-keepers are my wife and myself. We have packed in the wagon our bed, one trunk hay and grain for the mules, fishing poles

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guns, etc. The wagon is large enough so we close up the front and back, and sleep inside.

We started the afternoon of Nov. 7, and camped that night in the pretty little city of Santa Paula. This is a very nice place, having some of the finest residences and an air of prosperity and progressiveness. The people had recently voted out the saloons by a large majority, which of itself shows progress.

From Santa Paula to San Buenaventura we passed through the great Lima bean country of California. The acreage planted to Lima beans is said to be about 65,000 acres. Some of the bee-keepers move their bees to these bean-fields after they have gathered the crop of sage honey, and secure two crops a year, sometimes. The honey from Lima beans is almost water-white, and very fine. All through this section of country we see nice farm houses and large barns, and the people appear to be very prosperous. My wife, being a native of Ohio, was astonished at seeing such an abundance of flowers everywhere at this time of the year, this being her first winter in California. In many places we saw geraniums bordering the farms along the roadsides, and in other places neglected and growing wild in the greatest profusion.

At San Buenaventura the places of interest are: The old mission, with its old wooden bell, made hundreds of years ago; the flower gardens of the late Mrs. Theodosia B. Shepherd; the Bard Memorial Hospital, and the beautiful grounds around the court-house.

Leaving Ventura our route lay for 30 miles along the beach. This is a most beautiful drive. The Anacapa Islands can be plainly seen all the way. As we drive along we are impressed with the grandeur of the old ocean, as the breakers roar and send their foam right into the road on which we are traveling.

We pass through the Carpenteria Valley, one of great richness. Here we saw the largest grapevine in the world, and we saw the largest eucalyptus trees we had ever seen. One measured 15 feet in circumference 3 feet above the ground. These trees are natives of Australia, and are planted for shade and wind-breaks around orange orchards. They grow very tall, and do not send out long side-branches as do most other trees. They blossom in December and January, and the bees fill up the hives nicely when there is a sufficient number of trees, but the honey is dark and not salable, but it comes in a good time for bees to breed up on it.

We spent a week in Santa Barbara. Here we met our old bee-keeper friend, Delos Wood, who joined us for a few days' fishing off the wharf. We caught an abundance of small fish, which were very fine eating.

We visited the old Santa Barbara Mission, founded in 1786, and said to be the largest, most important, and best preserved, of all the 21 missions erected in California during the early days of the Spanish rule.

The Potter Hotel is a place of great interest to visitors on account of its extensive grounds, with its wealth of rare flowers from all parts of the world. A more beautiful place I have never seen, and doubt if it can be surpassed in the whole world. "Adios," Santa Barbara! We hope to see you again.

WM. C. GATHRIGHT.

Notice to Illinois Bee-Keepers.—We have received the following from the Secretary of the Illinois State Bee-Keepers' Association, which should be of interest to every bee-keeper in Illinois:

The annual membership fee in the Illinois State Bee-Keepers' Association is $1.00, and by arrangement the National Association allows the members of other associations to come in a body through the secretaries at 50 cents per member. Having received letters from many who were already members of the National, we have resolved to accept such in the Illinois State Association (who already have membership in the National) at 50 cents. This will entitle them to a cloth-bound copy of the 6th Annual Report, which will soon be ready for the press. Those who come in before March 1, will be in time to get their names in the Report, in the longest list the State Association has ever had. And further, we have about 100 beautiful badges that will be given out to the members joining before they are all gone. JAS. A. STONE, *Sec.*

Rt. 4, Springfield, Ill.

Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3½ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

Putnam & Peake is the name of a new firm which began to operate a bee-hive factory at River Falls, Wis., about Feb. 1. This is the same factory that Mr. W. H. Putnam conducted for a number of years. Mr. Carl H. Peake, the junior member of the firm, was an employee of the A. I. Root Co. for 9 years, and has the reputation of being a skilled workman. We bespeak a successful career for the new concern.

Insect Respiration and Circulation

BY PROF. A. J. COOK.

A subscriber asks me to describe the breathing and circulation in insects.

By respiration is meant the taking in of oxygen, and the passing off of carbon dioxide. Oxygen is the most important food in this respect, so we must have a constant supply of it, and if it is withheld but for a very few minutes, death by suffocation is sure. Carbon dioxide is harmless in the blood if in normal proportions, but let it once become present in excess, and it comes to be a virulent poison. We see, then, how important respiration is with all animals.

Respiration of Plants.

This function, indeed, is not limited to animals, but all plants must breathe in the oxygen and exhale the carbon dioxide. This is certainly true of all but the very lowest of the plants. The higher plants also take in carbon dioxide to use in their plant work and nutrition, and at the same time they give off oxygen, but they do this only in the daytime, when the sunlight aids them in their functional activities. But they breathe in the true sense, by day and by night. We see, then, that plants tend only to vitiate the air at night, though in the day they may make it more wholesome for us to breathe.

Two Kinds of Breathing.

It is well known, that some animals breathe water, or, better, air from the water, and such animals are called "water-breathers." Others breathe only air, or the oxygen from the air, and would surely die if placed in water. The water-breathers have gills, and the others lungs or tracheæ. The first, by the gills or branchiæ, can draw the oxygen from the water, while the latter by their lungs can take the same from the air. Both will soon die if the respiration cease.

Respiration in Insects.

Insects are all air-breathers when in the mature state. Some, like the dragon-flies, breathe water, by gills, while yet larvæ. Bees always breathe air. Insects never have true lungs, but have tracheæ instead. These penetrate to every part of the body. The red coloring-matter of the blood is to carry the oxygen from the lungs to the body. We see, then, why insects have white or yellowish-white blood; they have the air in their tubular lungs all over the body, so they do not need to carry it.

Respiratory System in Insects.

In our bees, as in almost all insects, two main air-tubes run along the sides of the body, and these branch and re-branch, and so push into every part of the bee, or other insect. These get the air through breathing-mouths, called "spiracles." These are situated along the sides of the body, and are very conspicuous in the great caterpillar, that works on he tomato, known as the "tomato-worm." Thus the insect takes its air, not through the mouth, but through these spiracles along on the sides of the body. These are guarded by a double valve which is under the control of the insect. The hairs, like the hairs in our own noses, are always keeping dust out, while the other valves act only when the need of protection is extreme—just as we use our thumb and finger, when the dust or noxious gas is too pronounced, or disturbing.

Blood and Circulation in Insects.

The blood in insects, as in us, is the great nourishing liquid. As I have already said, it is without the red coloring-matter, and so has not the red corpuscles, which hold the hemoglobine, or red coloring-matter. Except in this lack

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of the red corpuscles, the blood of bees is essentially like our own.

THE HEART OF INSECTS.

The heart of all insects, and so of the bee, is a straight tube, which is dorsal; that is, it extends along the back. This heat is all the circulating apparatus that the bee has. It has neither arteries nor veins. The heart has valves along the sides, which open as the heart is relaxed, and close as it contracts. The heart only moves the blood one way—towards the head. It then pushes back, through the intervascular spaces, and again crowds into the heart, to be emptied again near the head. We see, then, that the heart serves only to keep the blood in motion, forcing it ever towards the head. The circulating apparatus is very simple, while the breathing system is very well developed. We should expect this, as the muscular development and function is very high in insects, and good breathing and great activity go together.

WINTERING BEES IN CALIFORNIA.

The bee-keeper in California has great advantage over his brother in the North and East. There the winter comes with such rigor, that often the bees are swept as with the very besom of destruction. How often the entire apiary has been swept off by the Storm King, from the unwary bee-keeper, who was not careful to protect his bees from its fury. Here in our "Sunny South" land we have no such menace, and do not dread the winter's cold in the least. Here there is never a winter that the bees do not fly at some time each month of the winter. Often the bees fly, gather, and breed up quite strong in the very heart of the winter. As we all know, there can be no danger of death from cold, and unusually poor food would not be harmful in such cases as this.

Yet there is one menace even in California. I refer to starvation. This should never occur, and will never occur, if the bee-keeper is aware of the danger, and gives heed to his business. There is a reason why this occurs far too often. The California bee-keeper, from his distance from the large markets, is very likely to work for extracted honey. This is less likely to be injured in the long transit to market, and is sent often at less expense. If the season is good, the honey comes in rapidly, and the over-ambitious bee-keeper is very likely to extract too closely, and so the bees are robbed of the needed stores for winter. It behooves every bee-keeper to look well to his bees, and be sure that all have enough honey to carry them through the winter. It is a sad truth that many colonies of bees die here almost every winter from this inexcusable neglect.

ABUNDANT RAINS.

The crying need in California—especially Southern California—is generous rains. We must have them to insure a full honey crop. We have been very fortunate in this respect this winter. We have not only had more than is usual, but we have them in a way to do the most good. The prospects now for next season are very excellent. With good rains we are almost sure to have a good honey-year. Last year, however, even with rains, we had a dearth of honey. The cold, damp season was the cause. Such seasons are very exceptional.

Claremont, Cal., Dec. 29, 1906.

Do Bees Freeze to Death?

BY G. M. DOOLITTLE.

A correspondent writes that one of his neighbors tells him that bees often freeze to death in extremely cold spells during winter, and wishes me to tell in the American Bee Journal whether his neighbor is right or not.

Many seem to think that bees often freeze to death in winter, and when colonies are found dead in the spring, after an unusually cold winter, they are quite sure that no other cause besides freezing will account for their being dead, as they have often seen bees on the outside of the cluster somewhat stiffened with the cold when the mercury registered little more than the freezing point. And some are so unreasonable that they will not listen to anything which goes to prove that they may be mistaken. But to the careful student of intricate problems, facts often appear which show that each, in a measure, may be right and wrong, where two take exactly opposite sides in these matters.

That bees will freeze to death, when isolated from the main cluster, no one can deny, for no observing bee-keeper has failed to see single bees, and little clusters of 2, 3, 5, 10, 20, or even 50 to 100 in a place, away from the main cluster, frozen till life had become extinct, long, long ago.

There has been considerable talk of late about freezing bees and queens during the summer, by putting them in a refrigerator or an ice-house, so that in this frozen condition they would not consume anything, nor grow old by wearing themselves out through useless activity, thus prolonging their life indefinitely, and allowing the keeping of extra queens on hand, while the nuclei were worked for more queens, the frozen ones being thawed out at any time when they were wished for use, or successfully introduced while they were partially inactive through not being fully recovered from their stupor, which was brought on from freezing. But I can only look upon that word *freezing*, as used here, during such talk, as a fallacy, for, if I am right, no bee, after being once frozen, ever comes to life again. What was being talked about was bees brought into a dormant condition through a certain degree of cold, which degree was kept up till they were brought out from under that condition into a condition of activity again through a lesser degree of cold. But that degree of cold must always be less than the freezing point, for, with all my efforts to bring a frozen bee back to life again, I have signally failed.

I have picked up thousands of bees which had dropped down and become chilled on the snow, with the mercury standing at from 32 to 40 degrees, and brought them to life again, but with repeated trials on similar numbers of bees after the mercury had sunken as low as 30 degrees, or lower, not a single one could be gotten to move so much as a single foot or wing. And I have taken these little clusters of bees out on the combs, away from the main cluster, and brought them to life again the same as were those which had not been frozen on the snow, where frost had never reached them, but after they had been once frozen it was always useless to try to bring them back to life again. So much for little clusters and single bees that have become isolated from the main cluster during cold or very cool weather, which all go to prove that my correspondent's neighbor was right, that bees do freeze to death.

But there is another side to this matter, and this other side shows that his neighbor was wrong, if he intended to convey the idea that a good colony of bees with plenty of stores within easy reach could be frozen to death. While it is possible to freeze nearly all animal life by exposure to a very low temperature, the bees seem capable, with plenty of stores near at hand, to stand any amount of cold, so long as food remains within easy reach. To be sure, the bees on the outside of the cluster may become somewhat stiffened with the cold, but those within are as brisk and as lively as in summer. That pioneer bee-keeper, Moses Quinby, than whom there is no better authority, knew this to be a fact when he said that "the bees inside of the cluster, on a zero morning could fly as readily as in July, should the cluster be suddenly thrown apart."

Again, that veteran apiarist, Elisha Gallup, who died only a short time ago, in writing of a winter in upper Canada, where he kept bees a half century ago, said, "The thermometer for 60 days in succession was not above 10 degrees below zero, and for 8 of these days the mercury was frozen, yet my bees, in box-hives, with a 2-inch pole at the top, and the bottom plastered up tight, came through in excellent condition." (See American Bee Journal, Vol. V., page 33.)

Now if colonies of bees will not freeze to death under such conditions as these, pray tell me when they would do so. While bees here in central New York were never put to so severe a test as the above, yet the mercury often drops from 20 to 30 degrees below zero; still it does not seem to affect good colonies of bees in the least. From experiments conducted with a self-registering thermometer, I find that when it is 20 degrees below zero in the outside air, a temperature of 46 above zero is maintained within the hive and close to the outside of the cluster of bees, while the center of the cluster gave a warmth of 63 degrees above zero at the same time, thus showing that the bees were far from freezing.

To test more thoroughly this matter of freezing colonies of bees, I took a colony one evening when the mercury stood from 10 to 15 below zero, and suspended the hive about 2 feet from the bottom-board, taking off all covering from the top of the hive, so they were practically the same as hung in

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the open air, for the colony was not large enough so the bees touched the side of the hive in any place. They were left thus all night, during which the mercury went as low as 16 degrees below zero, yet the next morning the bees were all right, even if I did expect to find them dead. And what was more, they survived all of my experiments with them, coming through all right in the spring, and doing good work the next summer.

After all of the above, I came to the conclusion that all talk about freezing a good colony of bees when in a normal condition is a myth, and an impossibility.

Borodino, N. Y.

Bee-Culture vs. Horticulture

A paper read before a joint meeting of the Kansas State Bee-Keepers' Association and the State Horticultural Association

BY C. P. DADANT.

These two branches of agricultural economy are allied to each other, and may be carried on by the same producer, thus forming a profitable combination.

There are, however, some persons who think that these two industries are antagonistic. A demonstration of the incorrectness of these views will make the subject of this address.

There are two points upon which wrongly-informed horticulturists think that bee-culture is objectionable. The first is the bees' influence upon the blossons; the other, their depredations upon fruits.

The bees are said to work injury upon the blossoms of fruit-trees and shrubs or plants, by removing the honey and the pollen. A very elementary study of the structure of blossoms will enlighten us upon these points.

Bees Help Fruit-Bloom Fertilization.

In most of our fruits, the sexual parts of the bloom are both to be found within the corolla, the male part being the stamens or pollen-producing organs, the female part being the pistil or fruit-bearing stem. It is only by the scattering of the pollen in minute quantity, upon the pistil, that the blossom becomes fertile. Pollen is a dust of different shades, according to the blossoms from which it is produced, which has the power of making the fruit productive, or to cause it to "set," as is popularly said. This pollen, under the powerful microscope of scientists, proves to be composed of very minute round balls, having much the shape and appearance of osage oranges. These little pellets are gathered by the bees to be used in the larval food of the immature bee. So it is not consumed by the adult insect in any perceptible quantity. It is carried to the hive upon the third pair of legs in a cavity which nature seems to have provided for this sole purpose. Bees may be noticed laden with it, at any time during the spring or summer when returning to the hives, and many uninformed persons have taken it to be wax-pellets. But beeswax is produced in the hive, from honey, by digestion.

In gathering these pollen-grains, the bees shake them from the stamens which have produced them and cause a number of them to fall upon the pistil. So eager are they in the gathering of this pollen-dust that they are often covered with it, from head to foot, as if they had rolled in it. They comonly use the first and second pair of legs to brush it off their bodies and pack it into the pollen-baskets on the tibia of the third pair of legs. Not only does the action of the bees scatter this fecundating dust upon the female part of the flower itself, but it also distributes it from one blossom to another, from one tree or plant to another. In this way, in-and-in breeding is avoided. Although in-and-in breeding is very good to intensify certain qualities of plants, it is well known that this, when carried to excess, finally results in sterility, both in plant and animal life.

The action of bees and other insects in bringing about a cross-fertilization is well evidenced in the sporting of peaches, which cannot usually be reproduced exactly from the planting of the stone. A still better evidence of the sporting caused by insects is found in melons, cucumbers and pumpkins, which when planted in sufficient proximity to each other will produce offspring which is not cucumber, melon or pumpkin, but a mixture of them.

It has been ascertained that in numerous fruit-blossoms this pollen transportation and scattering on the part of the insects, and of the bees in particular, is indespensable to the proper fertilization of the bloom. Observing horticulturists have noticed that their orchards are never so full of fruit as when they have had two or three days of warm weather for the blossoms to be visited by honey-gathering insects. In the case of some blossoms, such as the strawberry—of which some varieties are imperfect and carry only pistils and no stamens—it is indispensable that some insect be able to carry the pollen from the perfect blossoms to the imperfect ones. Strawberry growers well know that some varieties must be accompanied by other varieties in order to become productive, but even if they were planted together, there would be but very remote chances of cross-fertilization if it were not for the agency of the winged insect.

So much for the removal of pollen by the bee. But what of their absorption of the honey? Some say that the honey exuded by the blossoms is reabsorbed by these same blossoms, in the support of the young fruit, and that the removal of this honey works injury to the fruit. Whether the honey is absorbed or not, we have a very good evidence that its removal works no injury. The largest crops of honey in our section of country are gathered from white clover and Spanish-needles. In Colorado, and in the West generally, millions of pounds are gathered from the alfalfa. I have yet to learn of a single instance where those plants have failed to produce a bountiful crop of seed after having given a crop of honey. On the contrary, it is proven that they produce more seeds after the bees have had access to them. Mr. Samuel J. Hunter, a State Entomologist, has made experiments and ascertained that the seed-production is increased three-fifths, at least, by the work of the honey-bee on altalfa blossoms.

Whether we believe in a fixed purpose of progress in Nature, or in the invariable outcome from the survival of the fittest, or in both of these theories combined, we must acknowledge that existence of honey-gathering insects shows a beautiful adaptation to the conditions of plant-life.

Bees and Fruit.

Let us now look upon the other objection to the culture of bees, in connection with horticulture—their depredations upon fruits. I think that, if it can be shown that the bees prey only upon damaged fruits, and this only in exceptional circumstances, the verdict will be in their favor, for damaged fruit, when hanging upon the tree or the vines, is of but little value. If not harvested at once it will rot, and the bees gather only that which would be wasted.

But *do* the bees damage sound fruit? Or, better yet, *can* they damage sound fruit? An examination of their mandibles in comparison with those of many hornets and wasps reveals the fact that while the mandibles of the latter are like saws, those of the bee are rounding and deprived of teeth. Their jaws act sidewise, instead of up and down as in animals, and they are shaped like spoons. They can grasp and hold another bee or the stems of plants; they are made to manipulate soft substances like beeswax. They can cut a hole in a piece of cloth or in paper, but an examination of the manner in which they do it will show that they first take hold of some projecting thread and pull it out, then take another, and keep pulling till they have changed the apparently smooth piece of cloth into a rag. But when it comes to the smooth skin of a fruit, all they do is to remove the soft down or bloom of the fruit, if they travel upon it long enough; but they are no more able to bite into it than a human being could bite into a smooth plaster wall.

This may be demonstrated by actual test. The most expeditious method is to place a bunch of ripe grapes inside of a populous hive of bees, previously puncturing a few of the berries and taking note of the number. After 24 hours or more, investigation will show that the bees have sucked the juice out of the punctured grapes, but have left the others intact. They will go even as far as covering with propolis or bee-glue those grapes which they cannot use, as they cover any foreign substance of which they cannot get rid.

Some persons assert that they are sure the bees injure fruit because they have seen them at work upon it, and because large quantities of fruit, especially grapes, have been found entirely destroyed, where bees only were found upon them. This is simply a delusion similar to that of the uninformed human being who denies that the earth revolves around the sun, because he sees the sun rise and set, and because he cannot feel the earth move; and argues also that if the earth moved it would be impossible

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for him to live on it when it was bottomside up. The bees evidently work upon damaged fruit, and they feel so innocent about it that they do not even attempt to fly away when we catch them in the act. But let us get up with the dawn, before sunrise, and go to the vineyard or the peach orchard, and there we will catch the real culprits that feed upon the fruit—quails, robins, cat-birds, etc. They gather in a vineyard by the hundred, eat their fill, and when no longer hungry they find pleasure in wantonly plunging their beaks in the soft juice. In many instances you will find a bunch of grapes with hardly a sound berry, and they are all plucked on the same side, many of the berries showing two holes, one above the other, a short distance apart. It was done by the two points of the bird's beak.

But the sun rises above the horizon and the bees come to gather the fragments, and so does man, and he straightway puts the blame on the industrious little toiler which works from sunrise till sunset for its board, and never fails to bring its harvest to the hive, to be later robbed by this complaining human miser.

Bees do not work on unsound fruit at all times. Is it because they are lazy at times? No, it is because they sometimes find better food. Whenever you see the bees on damaged peaches or grapes, you may be sure that there is no honey to be found in the blossoms. There are seasons of honey scarcity, when they manage to gather quite a little partly-fermented fruit-juice. It is the best they can find, but is not good for them. It will sour in the hive and make bad winter food. The prudent apiarist removes all this unhealthy food from the hive before winter, and gives them good honey instead. There is never any great quantity of it harvested, because many bees are made drunk by its fermentation, and fail to reach the hive alive. So when bees are seen in numbers on damaged fruit, it may safely be asserted that the apiary is more injured than benefited thereby.

Untimely Spraying Injures Bees.

Let us look upon the damage which has been occasionally inflicted upon the bee by the horticulturist. It is done by injudicious spraying of fruit during the bloom. Dealers in spraying instruments have asserted that it is necessary to spray the fruit-trees during the bloom. The result has been, in some instances, wholesale poisoning of insects where this method was pursued, the poison in the spray mixing with the honey in the corolla and endangering, not only the life of the bee that sipped part of this liquid, but also the life of those who might eat of this poisoned nectar in the combs.

So the spraying of fruit during the bloom might easily be made a criminal matter. But there is no advantage in spraying fruit during the bloom. What we seek is to prevent the puncture of the fruit by the depredatory insects, such as the codling moth, the curculio, etc. These insects puncture the fruit when it is formed, and their destruction must follow the formation of the fruit. The throwing of any poisonous mixture upon the blossom can have but one effect—that of destroying the efficiency of the pollen, if it is diluted in this poison.

The assertions I have made in this paper are based upon positive facts gathered in a large orchard and extensive vineyards, connected with an apiary of about 100 colonies of bees. I have often taken visitors into the vineyard and the apiary during the maturing of the fruit, and shown them, without any possibility of error, that bee-keeping and fruit-growing are not antagonistic, but are profitable and helpful to one another, when carried on together in a suitable location.

Hamilton, Ill.

[Since the foregoing was written and read, Mr. Dadant adds the following in reply to Mr. Hasty:—Editor.]

Bees and Grapes.

I am sorry to feel that I must take issue with Mr. Hasty concerning bees vs. grapes. But it has been my misfortune to be mixed up with a great deal of trouble in this line, and I have made so thorough an investigation of the work of bees on grapes that I know—absolutely know—that what I advance is true. I have heard people make the same statement that is quoted by Mr. Hasty, about Mr. Pocklington, (page 33) and in every case I proved it to be only an opinion advanced, which the party did not dare back up.

I have starved bees on grapes. I have tried just what Mr. Hasty suggests, getting the bees to "cluster on the bunch till they cover it all up, out of sight, like they were balling up a queen or trying to force a hole into a hive." I have had bees in this way just as long as they had the patience or persistence to stay, and I will tell you that they stayed a long time, for they knew the juice was there, just under the skin. But it was out of their reach. One berry punctured, out of a bunch treated in this way, had a depression in it where the juice had been sucked after 3 hours of exposure, but not a sound berry was damaged, except for the loss of its bloom.

Any of my readers can try this, and also try putting sound grapes into a full colony of bees and note the result. To make the test more secure, puncture one or two berries when putting them in. But be sure and do not handle the bunch carelessly, for you may loosen the berries slightly at the stem, and in that case the bees would soon take advantage of it.

I am sure of what I say when I assert that bees *will starve* on sound grapes, for I have tried it, not in one instance only, but in a number of instances, and with the greatest care in making the tests. Too many people make assertions in this matter without any actual test, and only from a superficial investigation, or, as in the case of some grape-growers, because they are anxious to find the bees at fault.

Test this for yourselves, and do not depend upon any eyes but your own. It is not difficult to do.

C. P. Dadant.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Number of Colonies to Produce $500.

The following question has been asked me to be answered in "Southern Beedom:"

"How many colonies will it take to produce an income of $500 a year? And what price per colony will they cost?"

The product per colony in my own apiaries has ranged from 50 to 150 pounds for a number of years. A fair average for southwest Texas, and for an average number of years, would perhaps be 75 pounds. For a period of 9 years, of which I kept close account, the total average of my apiaries was 66 2-3 pounds.

As bulk comb honey is produced most extensively, with some extracted honey, a good average price per pound would be about 8 cents. A hundred colonies, therefore, should, with reasonable care, bring an income of $500 or more a year.

Full colonies in frame hives range all the way from $3 to $6 per colony, depending a great deal upon their condition and the race of bees. Box-hives, where such have not already seen their day, and can still be obtained, will cost from 75 cents to $2 each. It is sometimes good policy to buy such, if they can be obtained cheap enough, and transfer the bees into frame hives that have been obtained "in the flat," and nailed up by the bee-keeper himself. This is, I believe, the best and the cheapest way to begin bee-keeping, unless a whole apiary, or a large number of colonies in the hives wanted, are bought at once. A start may also be made by buying nuclei and then building them up to full colonies. This is a cheap way of starting apiaries, but it is rather slow for an income the first season, unless a person has something else to depend upon for

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a living. Prices of such nuclei can be obtained from shippers of bees advertised in the bee-papers.

Rains have been quite general over the South, from reports received so far. A good season in the ground means much for the bee-keeper. More rains are needed, however.

May in Texas in January

It is warm—yes, *hot*—weather here the middle of January, the thermometer registering 75 to 80 degrees through the day, and only once or twice it went below 60 degrees at night for the past month. Agherites (wild currant), black chaparral, and various other early-blooming shrubs are now blossoming, and the bees are working and roaring at night as if it were May here in Texas. This we would very much rather not see, as the bees are rearing brood as if it really were spring. And this, too, more than a month earlier than I ever saw it before. This will cause a large consumption of stores that the bees will be sure to need later, as February is almost always our coldest month here.

Interchangeable Bee-Supplies.

A marked copy of Dr. G. Bohrer's good article on "Home Hive-Making and at Factories," on page 28, should be sent to every bee-supply manufacturer in the United States.

I have reference to the last two sentences of that article. Now I believe that our bee-supply manufacturers want to have their goods so that they will at least be interchangeable with supplies from other factories, but they are not always that way, by any means.

All the Beginner Needs.

One trouble with the average novice, he thinks he has to buy almost all he sees advertised in the bee-supply catalogs when he starts with bees. So he counts and figures on this and that article until he runs the bill up to hundreds of dollars for making a start with only a few colonies of bees. Then he becomes disgusted and quits right off.

Now let me tell you what I would buy if I had only a few bees and wanted to make a start: Outside of the hives and frames actually *needed* for the bees the present year, I would get a smoker, a bee-veil, an extractor, and an uncapping knife—that's all. I would add a good text-book if I didn't already have one.

A Cure for Bee-Paralysis.

Mr. F. J. R. Davenport, of this State, gives this as a cure for bee-paralysis:

"Take equal parts of honey and granulated sugar. Melt a pint together for each colony that is affected. At sundown remove the top and pull the cloth off and pour this warm liquid over the brood-frames and contract the entrance. The next morning, if it is warm, they will come out and take a cleansing flight, and come back to their hives all right."

I copy the above from the Dallas News. We hardly know from the above which Mr. Davenport considers the cure for the disease, the mixture of sugar and honey, or the cleansing flight. If the latter, I suppose either alone would answer, as a feed of any kind will cause bees to take a flight. If the mixing of the two sweets performs the cure, I am compelled to say that I hardly see the philosophy in it.

Thanks for an Article.

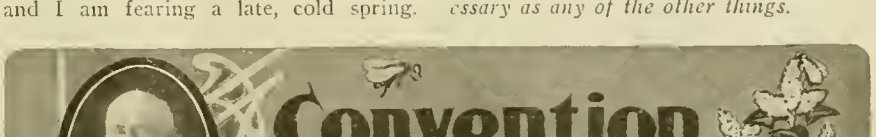
Mr. Adrian Getaz has my thanks for kindly answering some of my questions asked on page 704, the past season, and, as usual, I think his answers are about as nearly correct as we will likely get. (See pages 1032-1033, 1906, for his replies.) I am glad I fired those questions at Mr. Getaz for we have at least another one of his many good articles that we might otherwise not have had.

Rescue, Tex. L. B. Smith.

Yes, indeed, the weather has been *hot*, and everything has seemed like spring for the last 2 months. Indications are that we will have colder weather soon, and I am fearing a late, cold spring. Such are disastrous to the bee-keepers. When the stores are nearly consumed and the bees need the flowers to replenish them from, there may be none, and the weather may be such that the bees are kept in the hive. It is then that the bee-keeper must look at and watch the bees, and provide for them. Extra protection to the outside of the hives will also be essential at such times. However, we shall hope for the best.

I should be glad to have some good short articles on "Home Hive-Making," from those with experience. I am sure *locality* plays a big part in this matter. If I had white pine lumber, or anything like it, I'd make all my supplies with a foot-power buzz-saw, but our yellow pine lumber is hard to work, and then it warps, checks and twists very badly.

If I were a beginner, I would not forget to subscribe for a good bee-paper or two. These would be *almost as necessary as any of the other things.*



Report of the Michigan State Convention

REPORTED BY R. F. HOLTERMANN

(Continued from page 92)

Mr. Geo. H. Kirkpatrick read the following paper on:

WHY BEE-KEEPERS SHOULD PEDDLE THEIR HONEY

First, they should do so in order to get the largest amount of cash possible for their product. If a product is sold direct to the consumer, there will be no heavy freight bills to pay, and no middle man to share in the profits at the expense of the producer.

A few cents on the dollar may make a difference between success and failure. An individual may operate a given number of colonies and secure a fair crop of honey. Should he sell his honey to the city merchant at a market price of 7 cents, he would receive for 10,000 pounds, $700. Had this individual sold his 10,000 pounds direct to the consumer in the country where he lives, at 10 cents per pound, it would have brought him $1000.—$300.00 more than he got for it in the city.

We will now see how many days one must labor to prepare and peddle 10,000 pounds of honey, and what he will receive per day for his labor. It will require 20 days to liquefy 10,000 pounds, put it into pails, and label it. I think it is fair to put the number of sales per day at twenty 10-pound pails at $1.00 each, or 200 pounds per day. Thus it will require 50 days to peddle 10,000 pounds, or 70 days to prepare and peddle it.

Now, if he will divide the $300.00 by 70 (the $300.00 being the difference between retail and wholesale prices) we have $4.28 per day for labor while peddling 10,000 pounds of honey. The 10-pound friction-top pails will not cost more than the 60-pound cans, for the storage of 10,000 pounds. If we sell at wholesale, the cans go with the honey. If we peddle, we can reserve the pails and gather them up on our next trip.

Style of Honey-Package.

I use a 10-pound friction-top pail, one size only. I have never found it practicable to carry any pail with a capacity of less than 10 pounds.

Every pail of honey should be neatly labeled, the label giving the number of pounds the pail contains, the source from which the honey was gathered, the body, color and flavor. We should also give notice on this same label how to liquefy honey when granulated.

One pleasant feature of peddling honey is that one becomes more widely known, and makes friends and acquaintances.

Special Vehicle for Peddling.

I consider it an advantage to use a special vehicle, neatly painted, and lettered, giving in full in large, plain letters, one's occupation, name and address.

Advance Notice When Selling.

As men do not generally leave money with their wives when its need is not foreseen, I give notice to the heads of families on a Rural Route, a few days

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previous to my canvass, by mailing a special card that I have gotten out. By so doing it largely increases my sales, as the people are expecting me.

Only the best quality of honey should be sold for table use. If we deliver a pail of honey a little different in color or flavor from a previous sale, call the customer's attention to it when the sale is made.

When canvassing a new route, one should not be too hasty. Take time to get acquainted with customers, and tell them something about your occupation. Be polite, addressing all ladies and gentlemen in a becoming manner. Make friends, if possible, with all the persons you meet. Sell to them a good quality of honey—yea, a better quality than they can get elsewhere, deal fairly and squarely, and success is yours.

Success in life comes from finding out what the world wants and then supplying it in a style and quality a little better than others have done, or are doing. The world will pay for our honey a good, fair price, if we only do our work well enough. GEO. H. KIRKPATRICK.

In the discussion which followed, Mr. Muth advised asking a good price if the goods were first-class, and instanced a case where a man was making $4.00 a day (short hours) selling extracted honey, of best quality, at 20 cents per pound.

Mr. Kirkpatrick stated that he sold to lumber camps and the agricultural class entirely.

Mr. Holtermann thought Mr. Kirkpatrick's plan excellent; he himself sold at wholesale entirely, but the more retailed by bee-keepers at home, the better, provided a proper margin was left the dealer. As a rule, bee-keepers did not leave margin enough for the retailer. The wholesale and retail prices were too close together, and the storekeeper would push other goods which gave him a better margin of profit. In the address given, a difference between 7 and 10 cents was stated, probably about right. In the cost, expenses on the road and postage in notifying customers would have to be reckoned with.

(Continued next week.)

Conducted by EMMA M. WILSON, Marengo, Ill.

Eating Honey on Meats

Honey poured upon cooked bacon, sausage and some other meats is really very palatable, and much relished by many persons, strange as the combination may sound.—American Bee-Keeper.

Which recalls that some years ago a certain small boy in this locality made a regular practise of eating honey on his potato.

Nothing Like Honey-Vinegar

The thousands of sisters who take the Delineator will be rejoiced to see an item in the February number, page 332. It appears to be an unsolicited testimonial to the value of an article which is probably not so well known as it should be even among bee-keepers. Here is the item:

THE USE OF HONEY-VINEGAR.

If you want some fine vinegar, pure in quality, and very tasty, make it yourself from honey. I sampled some honey-vinegar at a friend's house some time ago, and I was so delighted with it that I persuaded her to give me her recipe for making it. Here it is:

Add 1½ pounds of extracted honey to a gallon of water. Then keep in a warm place, and in a few months you will be able to enjoy your vinegar. If it is not strong enough, add more honey, for I have made some vinegar with 3 pounds of the honey to the gallon of water. While not suited for all culinary purposes, in the making of salads and for ordinary table uses, there is nothing that can be compared to honey-vinegar.

New Auburn, Wis. MRS. T. C. C.

My First 6 Weeks Among the Bees in Colorado

A stranger, in the month of June, passing through the beautiful valley which lies between Denver and Boulder, can not help noticing the large alfalfa fields purple with blossoms, the roadsides and ditch-banks bordered with the fragrant sweet clover, and the prairies covered with the many-colored wild-flowers. Yet does he ever associate with these pleasant scenes the fact that these blossoms are the source of the many thousand pounds of pure white honey that are shipped from Denver every year?

If he is a close observer he will see that almost every ranch in the valley has its row of bee-hives located in some secluded spot, and that many of these ranches have large apiaries where the busy little workers, during the month of bloom, are industriously storing the nectar which they find in great abundance in these beautifully colored blossoms.

My brother has 5 or 6 apiaries located in different parts of the valley. It is about my experience in one of these apiaries during the swarming season that I am to tell you.

I had charge of a yard consisting of about 80 colonies in good condition. My prospects looked good, for my brother promised me that if I hived 50 new swarms during the season he would see that my financial difficulties for the next year in the Normal school would be at an end. Each new swarm was worth $5.00 to him, and he was anxious for me to save them all.

The long rows of white hives stood in one corner of a large apple orchard. The wide branching trees were now loaded with little green apples, but earlier in the spring they had been covered with beautiful white and pink blossoms, and had furnished the bees with a bounteous supply of nectar to nourish their young. Just as the blossoms on the trees had changed to apples, so the tiny white eggs in their little waxen cells had changed to bees, and now the busy little workers were getting ready for their life-work of gathering honey.

As the young bees began to multiply in the hive, the old queen must gather her workers together and seek a new home. It was my duty to give her an informal introduction to the new hive.

I had often seen my brother hive bees, and had studied about the honey-bee in Biology, so I thought I knew all about it and its habits. I soon found out that I had much to learn.

The first few days I had nothing to do but become acquainted with my charges. It was interesting to watch the little workers as they came in from the fields loaded with pollen. Now and then a big drone would come out and buzz around, trying to make me believe he was very dangerous, but I knew he could do nothing but scold, and I soon got used to that.

On the third day, as I sat reading under the shade of an apple-tree, I heard a strange buzzing sound, and upon looking up saw a swarm of bees issuing from a hive not 6 feet from where I was sitting. I hurriedly put on a bee-veil and gloves, lighted the burlap in the smoker, and ran to the back of the hive to watch them come out. They tumbled over each other in their eagerness to get out, and it seemed as though every bee in the hive were going to leave it. The bees circled in the air for a few minutes, and I anxiously waited to see where they would cluster. What was my surprise and delight when I saw them fly straight to the hive I had chosen for them, and enter their new home without any assistance from me. How proud I was of my first swarm, and what a splendid bee-keeper I thought I was getting to be. I changed my mind, however, during the next few weeks, for every swarm seemed to have a new idea about the location of its new home. Some would settle on a bunch of alfalfa, and I would smoke them into the hive. Others would start out and lose their queen in their flight, and return to their old home. When I saw them returning I would turn the old hive around, put a new one in its place, and play a little trick on them in this way. I would give them a frame of brood from one of the first swarms, and let them rear a new queen.

Several swarms were "foolish" enough to cluster on a fence-post, and

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I would scrape them down on the hive with a honey-board. But most of them seemed to have a fad for seeking the highest branches of the apple-trees. I would mount a tall ladder, carefully draw a large gunny-sack over the cluster of bees, then break the branch off and carry them down to their new home in a sack. This was very nervous work, but I soon learned that the bees would not sting me if I was careful with them. If I were nervous and afraid they seemed to know it, and were much harder to manage.

One day 2 large swarms came out at the same time and clustered together on the topmost branch of a big tree. I could not reach them even with the ladder and gunny-sack, so I shook the branch vigorously, and bees and apples went tumbling down. I then began to work my smoker as hard as I could. Now bees do not like smoke. These, however, did not seem to mind it, and were bound to cluster on that branch. The more I shook and smoked the more determined they seemed to be. This rough treatment, however, made them angry, and a number of them began to sing a war-dance around my head. One angry little bee spied a hole in my veil, and in she flew and stung me on the eye. Then it was my time to become angry. It did not take me long to get down from the tree-top. They had won the battle. I decided to let them hold the fort until I could get some reinforcements.

When the men came in to dinner I got one of them to saw the top off the tree for me, and bring down fort and all. My eye was swollen shut by this time, and that side of my face was very plump and rosy for a few days.

I put the bees all into one hive and watched for a balled queen. I soon found the ball. I had never had this experience before, and oh! how I dreaded to put my hand down among those bees and lift out that ball of bees! But I did it. My hand shook, but they did not seem to notice it. I found the queen, caged her, and waited results. All was quiet in the new home, or seemed to be until about the middle of the afternoon. Then the storm began. I saw them rush out of the hive-door like mad. I thought my swarm was going to the tree-top again. I ran to the hive and placed the caged queen on the door-step. She must have called them home again, for they returned and lived peacefully ever afterwards.

During the whole season I received only 3 bad stings. The swarming season is very short, lasting only about 5 or 6 weeks. During the last week the bees had almost all stopped swarming, and were working in the supers. Some of the stronger colonies had the second super half full of honey.

My brother told me that Saturday would be my last day in the yard. I had already hived 49 swarms, and felt sure of another one before Saturday. Thursday and Friday passed and no swarm appeared. I watched anxiously all Saturday morning, but in vain. In the afternoon the sky began to cloud over, and I gave up all hopes of getting my 50th swarm. I gathered my things together, ready to start home, but before I went I thought I would go down through the orchard and see if I could find some ripe apples. When I returned I noticed a commotion in the further end of the bee-yard. I went over to see what was the matter. The rain was now falling and the air was thick with bees returning from the field, but there on one of the lowest branches, in easy reach of a hive, was a little afterswarm. All I had to do was to get the hive and shake it in, and my 50th swarm was safe!

A LITTLE BEE-SISTER.

Many thanks for the interesting story of your experience, with the hope that this shall not be the last we shall hear from you.

May it not be that those studies will be just a little more interesting because you earned the money for them yourself? It's much to have so good a brother; and one feels like holding one's breath for fear you might not get that last swarm.

Conducted by J. L. BYER, Markham, Ont.

North and South in Hand-Grasp

It is with pleasure I grasp the extended palm of Mr. Scholl (page 70). It is a case of "looking up" and "stooping to *concur*;" factors, evidently, by looks of splendid photograph on that first page, that did not have to be taken into account when Mr. and Mrs. Scholl were considering matrimonial relations.

Comparison of Southern and Canadian Weather Condition

So they are having summer weather down in Texas, with the thermometer registering as high as 80 degrees Fahr. As I read this I am wondering if those "roses, violets, and carnations" have not been nipped since Mr. Scholl penned those lines, as this past week has been our first taste of real, severe weather, the temperature going as low as 15 degrees below zero.

After reading aloud to Mrs. Byer the nice things Mr. Scholl has to say about Texas weather, I asked her, "Now, wouldn't you like to live in Texas?" and the answer comes decidedly, "Well, no; I guess not." Whereupon she gives as reasons a number of objections to the South in general, among which I might mention earthquakes, cyclones, extreme heat, and drouths; snakes, fleas, and other insects too numerous to catalog.

Come to think of it, I guess no country has a monopoly of all the good, or *bad* things, for that matter. While our winters are cold, we prepare for them, for we know they are *sure* to come; and from an apicultural standpoint, we don't seem to have any more trouble to get our bees ready for the honey-flow than do our friends in the South. Winter effectually stops the ravages of the moth, and combs that are stored away in moth-proof boxes in November, are secure for all time to come; and I am told, and can readily believe, that consumption of stores is much greater in the South than in the northern sections.

However, I am free to confess that "bees flying and 80 degrees Fahr.," sounds pretty alluring just now; and from the fact that a former schoolmate of mine is now domiciled in Beeville, Tex., I have no doubt that if *I had to*, I could manage to live there also.

Honey from Cappings With a Solar Wax-Extractor

In a letter from Mr. George Wood, of Wesley, Ont., speaking about getting honey out of cappings, etc., among other things he says:

"I have used a solar extractor for that purpose, but it takes a lot of time, and in this breezy upland country it does not always work out clean."

Mr. Wood's experience is in common with a great many other apiarists; and especially in wet, cool seasons like the past few years, the solar extractor is not much to be depended upon without the use of artificial heat. As far as I am concerned myself, since using the press (of which more later), I have no use for my solar extractor, as I find it much better, in every way, to allow the cappings to drain off all the honey that is possible, then wash them to secure what honey is left for honey-vinegar. It is then only the matter of an hour or so to melt up all the cappings and run them through the press.

Cold Winter and Little Snow

Up to date (Jan. 23) we have had a moderately cold winter with scarcely any snow. Although a few days in January were quite mild, yet none were warm enough for the bees to have a flight. Our bees seem to be affected slightly with dysentery, judging by signs at the entrances of some hives, and a few colonies seem to be some

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what uneasy, flying out in unseasonable weather. Whether this uneasiness is caused by the bees' food being almost exclusively buckwheat, is hard to say, but there is no question that a nice, warm day (which we are not likely to have for some time) would be welcomed by bee-keepers in this locality.

A nice blanket of snow to cover the clover would also be a benefit, for, although the clover is in no immediate danger, if we happen to get severely cold weather, frost penetrates very deeply into the ground, and this condition greatly tends to produce "heaving" of the alsike in the early spring. We had no snow last winter, and if the result of last season's honey crop is a safe criterion, certainly prospects are none too assuring for next season's returns.

Bee-Inspectors for Ontario

As will be noticed in the report of the Ontario convention, next season will see a radical change in methods of foul-brood inspection for Ontario. Whether the proposed changes will work out well in practise remains to be seen.

Formerly, Mr. McEvoy was inspector, with Mr. Gemmill as assistant, who, however, was not often called upon. This year it is proposed to have 6 men in the field, each having a specified territory to work in. At present it is understood, I believe, that Mr. McEvoy is to have a "say" in the matter of selecting the other 5 men; also to have a certain amount of supervision over the work, and act as referee in case of any disputes. However, as far as I am aware, the Department has not as yet definitely decided upon the course of action to be taken.

While at the convention the Minister of Agriculture expressed the view that there would be no difficulty in getting 6 capable men to take charge of the work; and right here I confess to being a bit skeptical about the matter. In the majority of cases the men most qualified for the work would not think of leaving their own business and taking up the work of inspection.

One of the arguments against having one man to do all the inspecting, was that such work should be done during fruit-bloom, or at other times when honey was coming in; and that it was physically impossible for one man to be at all places where his services were required, in these limited periods. As a matter of fact, the same arguments hold good if 6 men are employed, for very few bee-keepers would care to leave their yards during a honey-flow, unless they had competent help to leave in charge.

Of course, these views are merely speculation on my part, and possibly we may be surprised when we learn who are to take up the work. At any rate, this matter of inspection is a work that deserves the earnest, tactful attention of the Government, and it should be gratifying to the bee-keepers of Ontario to know that the Department is taking the interest it is in our business. Certainly, every bee-keeper in Ontario should be ready to lend a helping hand in this matter of eradicating foul brood, whether we have but one or a dozen inspectors to help us in the fight.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

How Many Colonies for the Pasture?

My bees have at least 300 acres of clover and alfalfa within 2 miles. How many colonies can I pasture to be safe? UTAH.

ANSWER.—That's one of the very hard things to say. You don't say whether you mean red or white clover. If you mean red, it probably doesn't count for much, while white clover counts heavily in good years, although some years it blooms a plenty and yet yields no nectar. If you had said 300 acres of white clover, meaning 300 acres solidly occupied with white clover, I should guess that 200 colonies might get good picking. Alfalfa varies more. If it is all used for raising seed, then it probably counts as much as white clover. If used for hay, it counts for less, and may count for nothing, depending upon the times when the hay is cut. If always cut just before it blooms, then it counts for nothing; if cut when in full bloom, it may count perhaps on being enough for 100 colonies. You will easily see that as you state it, the whole thing is a varying problem. It may be mostly white clover, or it may be mostly alfalfa, and the alfalfa may be treated so differently as to make a big difference in the amount of nectar got from it. My guesses may not be reliable, and if any one can give anything more reliable I will cheerfully yield the floor.

Storing and Capping Glucose and Sugar Syrup

I heard a bee-keeper say a few days ago that bees would not carry in glucose, and that they could cap neither glucose nor sugar syrup. I have supposed all the time that they would cap any sweet they stored in the cells. I have had no occasion to test this. What is your experience? ILLINOIS.

ANSWER.—I can give no positive answer from personal experience, for, although, I've done a lot of fool things with bees I never fed glucose. I have, however, fed sugar syrup, and had it sealed. Others have said they could not get bees to take glucose, and I don't remember seeing a report of any one who had been successful in getting bees to store it. Even if they could be induced to store it, it does not necessarily follow that they would seal it, for they have been known to fill cells without sealing them for a long time, if, indeed, they ever did.

Wood Splints for Staying Comb Foundation

What are your splints for staying foundation? How are they used?
P. E. ISLAND.

ANSWER.—They are splints 1-16 of an inch square, of basswood or some other straight-grained wood, about ¼ inch shorter than the distance from top to bottom bar. It would be full better to have them touch both top and bottom bar, but it would be more difficult to put them in. They are put in something like 2 inches apart, the 2 outer ones within half an inch to an inch of the end-bars. The splints are put in a dish of hot wax and left there till all frothing and bubbling ceases, and then they are lifted, one by one, by a pair of pincers, laid upon the foundation, which must be properly supported upon a board, and an assistant presses each splint into the foundation by means of the edge of a little board kept constantly wet. If put in while too hot, there will not be a good coating of wax on the splints. The foundation enters the groove in the top bar and goes down through the bottom-bar, which is in 2 parts, the lower edge of the foundation being squeezed between the 2 parts. The advantage is that the comb is built down to the bottom-bar. If, however, such a frame of foundation be given at a time when they are gathering nothing, the bees will gnaw a passage over the bottom-bar.

Colors for Painted Hives

Should I paint my hives all the same color? If so, what color would you advise? I see from reading the American Bee Journal that some bee-keepers advise painting hives different colors, as one color bothers the bees in locating their hive. INDIANA,

ANSWER.—There would be some advantge to the bees in the way of recognizing their hives if they were of different colors, but it is hardly necessary. Bees locate their hives by means of surrounding objects, and except on a bleak plain utterly without any surrounding objects there is very little difficulty where the hives are 5 feet or more apart from center to center. But you can just as well have double the number of hives on the same ground by having them in pairs. Set two hives close together on the same stand, then leave a space of 2 feet or more, then another pair, and so on. Ground may be still further economized by placing another row close to the first, letting the hives stand back to back.

There is probably no better color, all things considered, than white, using good white lead.

Changing Supers Over to T-Supers—Overstocking

1. I am interested in the T-super. I think it is a good one to adopt. I wish to ask if I can make T-supers out of my 10-frame supers (dimensions 16x20 inches outside) to make it pay, and how to do this the best way. I am a novice, or was 3 years ago, and was somewhat puzzled in the American Bee Journal, as was Mr. M. F. Soule. I think if he can have Dr. Miller's "Forty Years Among the Bees," and read it, he will soon pick it up. At least, I did so, and I am no scholar at all, and am 45

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years of age. I have had no schooling in this country.

2. Last year I had 23 colonies, spring count, and doubled them up to 19, and had 7 at home and 12 at Oak Park, 4 miles away from home. They produced 70 and 330 pounds of honey, respectively, so that proves to me there are too many bees in this part of the country. I had my queens clipped, and shook the swarms of one on combs or foundation, and put the brood over the still weaker colonies, and increased to 23. I will move out to Oglevie, 25 miles from here, in the spring, on a small farm, and milk some cows and keep bees.

MINNESOTA.

ANSWERS.—1. Your supers are 16x20 inches outside, and if made of ⅞ stuff they are 14¼ x18¼ inside. If you intend to use the popular 4¼x4¼ section, the width of your super will do, but the length, 18¼, is ⅞ too much. It depends upon how they are made, whether it will be easy to cut off that ⅞ and nail them together again; but if it is not easy, all you need to do is to nail in one end a ⅞ board. Then if your super is any deeper than 4⅛ or 4⅝, it must be cut down to that depth. Possibly your supers are extracting-supers, and of such depth that each one can be cut in two, making two supers. Then, for each super, you will need 2 strips of tin ⅝ inch wide, and 6 staples, or else 6 pieces of sheet-iron 1x1½ inch. You will nail a strip of tin on the bottom at each end to support the sections at each end. On the lower edge of each side, just at the middle, will be a staple, and half way between this and each end another staple. Drive each staple into the lower edge of the side, and about ¼ inch from the inside, and then bend it over, so that when the super stands flat upon a table the staple will be flat on the table. If you prefer to use sheet-iron pieces instead of staples, two wire-nails will hold them.

"That proves to me there are too many bees in this part of the country." Not necessarily. If you have been in the business only 3 years, it may be that those were 3 bad years, and that next year will be a good year. It may be, however, that the locality is overstocked, for all that.

Bee-Bread or Pollen in Winter—Taking Bees Out in Spring

1. I have a colony of bees which I thought had plenty of honey. I put them into a cave, or outdoor cellar, on Nov. 8, 1906. I took them out Jan. 23, as it was a very warm day, and found a good many dead bees in the bottom of the hive. They have 9 frames full of comb, but the bottom half is empty nearly half way up the frames; but I don't find any bee-bread in any of the frames. Will they winter all right without bee-bread, or can I feed them anything as a substitute for it?

2. They flew out in large numbers until 5 p.m. They carried in water till 4:30. It seems as if the honey is partly candied in the upper part of the frames. It is warm and nice in the cave. Nothing freezes in it. When is the best time to take them out of the cave and put them on the summer stand?

3. We are up on the high table-land where it has been very dry for a number of years. Bees had done no good until the last 3 years. Last year they did fine. Some took off from some colonies 70 to 75 pounds of honey of fine quality. What is the best to feed the bees in case they haven't plenty of stores in the spring to feed the young bees? Do you think that extracted honey is better than granulated sugar? We have had a nice winter, not much snow, but the wind blows a good deal of the time since the sun crossed the line in September.

NEBRASKA.

ANSWERS.—1. Whey will winter all right without any bee-bread, but they can not rear brood in the spring without it. It may be that they can get pollen as soon as they fly in spring, and you can easily tell if they do by seeing them carrying in loads of pollen. If so, you need not interfere. But if they get no pollen you can give them a substitute of almost any kind of meal you happen to have. A very nice thing is ground corn and oats. Set a shallow box of it out in the sun, tipped to one side, and when the bees work it down level tip it the other way. They will use out the fine parts, and you can feed the coarser parts to your 4-footed stock. I wouldn't wonder, after all, if the bees have all the pollen they need in the new hive now. It may be in cells with honey over it and sealed, so that you would not see it.

2. The right time to take out depends upon the season. In this locality I generally take out my bees about the time red or soft maples are in bloom, and that may be from the middle of March to the middle of April. Perhaps you could go by the same sign, although you are in the northern tier of counties in Nebraska, and so you are farther north than I. So long as the bees are quiet in the cave there is no need to hurry them out, and you need not be alarmed at some of the bees dying, for a good many may die from old age.

3. Honey of best quality is probably the best thing for bees, especially when brood is to be reared; but if you haven't that, then syrup of best granulated sugar comes next.

Proper Temperature of Bee-Cellars

On page 14, R. H. Smith says the best temperature for wintering bees is 45 to 48 degrees above zero. If I remember rightly, all our best authorities agree on 42 to 45 degrees for the most successful wintering in cellars. I have one Standard barometer and 3 Fahrenheit thermometers. One of the latter is filled with quick silver, or mercury, and the others with colored fluids. I have all these in my cellar, and the variation from the one that shows the highest to the one that shows the lowest, is 10 degrees. Upon which can I depend for the desired 42 to 45 degrees which is necessary for successful wintering of bees, as claimed by our best authorities?

WISCONSIN.

ANSWER.—So you're up against that mixed matter of temperature in cellar. If there is anything like a general agreement, it is that the right temperature is *about* 45 degrees. But, as you have found out, thermometers vary. You will also probably find that cellars vary, perhaps on account of difference in dryness, perhaps for some other reason, so that if the same thermometer is used in 2 cellars, it may need to be higher in one than the other. I don't know which of your thermometers is best; and it doesn't make very much difference, although on general principles it's better to have it correct. But here is what you're to do: Take whichever thermometer you think best, and keep close watch until you find at what degree your bees are quietest; then keep your cellar as near that temperature as you can, whether it be 42, 45, 48, or something else. The idea is to find at what temperature your bees are most quiet by *your* thermometer, in *your* cellar, no matter what authorities say.

Space Below Brood-Frames—Wire-Screening Cellared Bees in the Hives

1. As I expect to make my bottom-boards, I would like to know how deep an entrance can be before the bees will build comb from the bottom-bars to the bottom-board. I have been using them ⅞-inch deep, but I notice the bees alight outside and crawl in, the same as a ⅜-inch entrance; but if 1¼ inch they don't alight on the bottom-board, but on the combs. It seems to me this must save quite a little of the bees' time. Would 2 inches be too deep?

2. What do you think of shutting bees in the cellar with wire-screen? I use a frame with wire-screen on both sides. I close up the entrance with 2 small nails and a strip of wood. I use another strip to hold all together instead of staples.

IOWA.

ANSWERS.—1. I don't know just how deep a space would do, but I'm sure 2 inches would be too deep. I have had bees build comb in a 1¼ inch space, although from what you say your bees may not yet have built in such a space. I should feel safe with a ¾-inch space, and likely there would be little building with a space of 1 inch. My bottom-boards, however, are all 2 inches deep; then during the busy season I fill half or more of the space with a sort of rack, which prevents the bees building down, yet gives them the chance for much ventilation. In winter the bees have the whole of the 2-inch space, which is an important advantage.

2. I never tried it, but those who have tried it generally condemn the practise. I remember especially E. D. Godfrey, of Iowa, who, some years ago, suffered loss by it. The editor of Gleanings has been trying it lately, and reports that when the bees find themselves imprisoned, they make such a to-do as to stir up the whole colony. I have used wire-cloth at entrances in winter, but it was of coarse mesh, 3 meshes to the inch.

Reports and Experiences

Wintering Well—Cold Weather

Bees are wintering well. We had a mild winter, with but very little snow, till about Jan 20. We now have about 6 inches of snow, and it is cold. On Jan. 24, the mercury was 26 degrees below zero. My last season's crop of honey was about 4500 pounds from 63 colonies.

C. F. BAKER.

Belmont, N. Y., Jan. 28.

Fair Season in 1906

The past season was a fair one here. I secured about 1350 pounds of comb honey, which was my largest yield since keeping bees. I took the 1st premium on a case of alfalfa honey, 2d premium on display of comb honey, and 3d on a case of amber honey, at the Kansas State Fair at Hutchinson. I think that is not so bad for a bee-keeper of only a few years.

JNO. A. DUNN.

Abbyville, Kans., Jan. 23.

Cold Snap—Material Commotion

We have had our cold snap. Yesterday morning it was 10 degrees below zero, and now it is 14 degrees above, with 2 inches of snow. Bees apparently are all right.

There seems to be a commotion in the material world—"earth shakes," floods, and Minnesota snows. The traditional spiritual calm seems on the "quake" also, in France. Well, bee-keepers are a staid lot, and we can rely on them for honey and perseverance.

Farwell, Mich., Jan. 24. T. F. BINGHAM.

Indians and Wild Bees

I never kept bees, but no one has had more experience than I and not keep them. I have tried to outdo bees ever since I can remember. First, the bumble-bees—how to rob them and get the honey. I have put in days, while herding sheep in Kansas, killing bumble-bees and pulling them in two and dropping the big drop of honey into my mouth. But not without stings, so you don't have to tell me a bumble-bee can sting more than one time.

Last summer I happened to go into Indian Territory. Stopping over night with an Indian family, they made the remark that if they had some sulphur they would rob a bee-tree. It made me "come alive," and I asked how they did it.

To cut the tree, burn most of the honey and all the bees, was the plan described. So I made a smoker out of a baking-powder can, etc., and fixed a box for them. They all

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wanted to go, children and all, and even called 4 dogs along.

Well, I had lots of fun, but only one boy stayed to help carry the honey, axe, saw, wash-boiler, and a dozen other articles besides a box full of bees—60 pounds (estimated) of capped-over honey.

I cut a tree and let it fall on a pile of brush to save the jar, then I paid no more attention to the bees. As for stings, they positively cured me of rheumatism. I sawed close to the hole, then split out, kept sawing and splitting out to the comb, smoking the bees up the hollow. Then I removed the comb, putting the young bees and comb in the box, and saving the choice capped-over pieces (and I had seen pieces 3 feet long) to eat. The broken pieces I saved for the bees to commence on.

Just one week from the time I put these bees in this box they had filled it nearly full of new comb and laid eggs in nearly every cell. I put them in 4-frame hives, cutting out the comb and putting it in the frames.

When I went back, 3 weeks after, they had 3 more trees, and I found 4 trees while hunting squirrels. I put 4 of these queens in a box the size of a suit-case, with a frame of brood and all the bees I could get handy by brushing them off the other frames. I carried that box as a grip (I did not pay express) 3 days and nights before I got them out in larger space in hives.

I gave each frame a new hive and spread them by adding frames of foundation as they needed it. I cut the trees in July. There are 8 colonies of bees now doing fine.

When I returned to see the people they called me a "bee-man," and asked me to rob a hive. I took out a frame of nice capped-over honey. To see those Indians reach out for a chunk of that honey did me good.

Do you think I could learn to be anything of a bee-man? I sold those I carried so far in my hand, so I have no bees.

Wichita, Kan. L. BENSON.

[Yes, there are encouraging signs of a bee-keeper in you. Better get some bees and "do business" with them.—EDITOR.]

"Erythema" from Bee-Stings

Dr. Miller, after giving his answer in Jan. 3d issue, says:

"If any one can help out, such help will be gratefully received."

"Wisconsin's" wife, without doubt, suffered from Erythema. It is a well-known fact among medical men that external irritants (like a bee-sting), as well as the internal administration of certain drugs, and sometimes certain articles of food, or fruits, will produce *in a few susceptible people* the condition described by "Wisconsin." I know one person who can not eat strawberries without bringing on the affliction, and yet is otherwise in good health.

In reply to the query as to whether it will occur again, I will say: Yes, it certainly will if the lady is stung again. The attack will last from a few minutes to a few hours, or perhaps 2 or 3 days.

Yes, there is a remedy, but as it varies with circumstances, I will not give it for publication. The trouble can be prevented by avoiding the exciting cause—the bee-sting, or whatever it may be.

No, it is not advisable for "Wisconsin's" wife to try again to work among bees. She should avoid them. F. D. CLUM, M. D.

Cheviot, N. Y., Jan. 12.

Drones Flying Jan. 5

With the thermometer at 38 in the shade, I saw 4 drones in flight. My boy caught one with his hand in the air, and I picked another off the grass in front of the hive. Doubtless this is no new experience in the history of bee-keeping, but the following facts may be interesting:

I started my little apiary with one colony in May, 1906. In June I took brood-frames and started 2 other colonies by introducing

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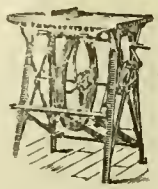

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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queens. The season was a very poor one, but by liberal feeding they built up new comb, and on Sept. 10 (which was rather late in the season, I am afraid) I decided to experiment with the Ferris system on one of the new colonies, which was then full of bees. I divided it into 2 divisions by a board, and introduced an untested queen on the east side, the hives facing south. About 2 weeks later I examined this side and saw the queen, but could find no signs of eggs or larvæ. I then fed each colony with all the bees could take of sugar syrup.

The middle of November I bunched the hives together, and placed a large packing box over all, cutting away on the side about 6 inches opposite the entrances. The hives are protected by at least 6 inches of closely packed leaves on all sides. The board cut from the front overhangs as a shade, so that I must get on my knees if I want to see the entrances.

New Year's day was warm, and I cleaned away a few dead bees that were lying just inside the entrances. I found a young unhatched bee at the entrance of the hive where the young queen had been given, and it suggested that possibly she had started to lay after my inspection.

On Jan. 5 this colony, which occupies the east end of the row, was the first to send out bees, and I suppose it was because the rising sun, striking the east end of the packing box, had warmed up the hive. This was 11 o'clock, and an hour later the colony at the west end sent out a few bees. The center colony made the smallest showing of all.

Bees were flying from both divisions of the east hive, but the great majority were from the one in which was the young queen. The drones came from this. The workers disported themselves in front like nurse-bees, and in about half an hour there were very few outside. The drones appeared almost at the start of the flight.

The following day (Jan. 6) the outside temperature rose to 50 degrees, and the colonies showed activity in much the same way as they did before. However, I saw no drones.

In "A B C of Bee Culture," Mr. Doolittle says he has twice seen drones flying in winter during his career, both occasions following very heavy honey-flows, and he assumes they had not been killed off. I watched the slaughter of the drones in my own hive, and I saw none flying for weeks before the beginning of winter.

For a definite conclusion as to the reason of their existence, I feel I must wait until spring, but, in the meantime, I conceive the following possibilities: First, the drones have lived since summer; second, the queen is now laying, but has not been mated, but the flying bees that I examined are small and downy, and I think they are young; third, the queen is laying, but her first eggs were not fertilized. To quote Robert Burns—

> "Her prentice haun she tried on man,
> And then she made the lasses, oh."

Perhaps there may be a fourth, and even other possibilities, but I will let men like Dr. Miller add to their number.

Glencoe, Ill. F. DUNDAS TODD.

Pollen and Honey in January

Bees are getting pollen and honey from black brush, wild peach, mistletoe, and barberry; also from seedling peaches and early-blooming pears. How is that for January?

Sabinal, Tex. GRANT ANDERSON.

[We should think that January is pretty early for bees to be working on the blossoms. At this time we have nothing but snow and ice in this part of the country. But 1300 miles south of Chicago it would be quite different.—EDITOR.]

For Missouri Bee-Keepers.—Since I sent the call to the bee-keepers of Missouri, in the last issue of the American Bee Journal, to write to their Representatives and Senators in support of their Apiary Bill, which has been introduced in the Senate, the Bill has also been introduced in the House. The Senate Bill is No. 145, the House Bill is No. 503; both Bills read alike, but in writing to a Senator it will be well to name Senate Bill No. 145, and when writing to a Representative, name House Bill No. 503.

I wish to suggest that Missouri bee-keepers write a letter to their legislators, calling attention to the great need of the apiarists and horticulturists, to have the Apiary Bill passed, and then have this letter signed by all the bee-keepers, fruit-growers, and other prominent citizens who take an interest in the welfare of the vocations named. It will be much easier in this way to get signatures of many bee-keepers to these letters, than to induce them to write the letter themselves. Bee-keepers, do all you can. It is important that our legislators *hear from home.*

RODT. A. HOLEKAMP.
Sec. Missouri State Bee-Keepers' Association.
4263 Virginia Ave., St. Louis, Mo.

CONVENTION NOTICE.

Minnesota—The Southeastern Minnesota Bee Keepers' Association will meet in the Court House at Winona, on Tuesday and Wednesday, Feb. 26 and 27, 1907. Everybody is invited. E. C. CORNWELL, Sec.
Winona, Minn.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

"Langstroth on the Honey-Bee"—the well-known bee-book revised by the Dadants—has just passed into another edition. There have been some 75 pages added to it, and the whole work brought down to date in every respect. It is certainly a fine book, and should be read by every bee-keeper. It is really a classic. To become acquainted with the great Langstroth through the reading of his book is no small thing. Other bee-books are good, but there is only one "Langstroth on the Honey-Bee." The latest revised edition will be sold at the same price as the one preceding, which is $1.20, postpaid. We still have a few copies of the old edition on hand, which we will mail at 90 cents each, if preferred, so long as they last. We club the new edition of this book with the American Bee Journal for one year—both for $2.00. So long as we have any copies left of the old edition, we will send it with the American Bee Journal one year—both for $1.80.

☞ In justice I should say that the American Bee Journal pleases every member of the family, and all appreciate the Editor's tireless and punctual labors.—THEODORE LOHF, of Colorado.

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The Fruit-Grower Co., Box 15, St. Joseph, Mo.

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Mention Bee Journal when writing.

Best No. 1 Sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Discounts on Danz and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.

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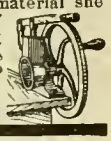

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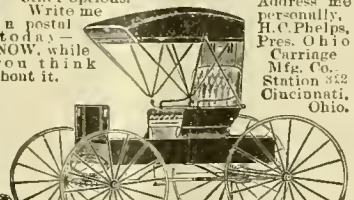

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Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15 —The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3 20; No. 1 light amber, $3; and good No. 2, at $2 80. White extracted, 8 a 8½c; light amber, 7¼@8c. Beeswax, 26c for clean yellow, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN

CINCINNATI, Jan. 9—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14½@16c. Extracted amber honey in barrels, 6@7c; fancy light amber in cans, 7@8c; fancy white, 9c. Strictly choice beeswax, 30c, delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

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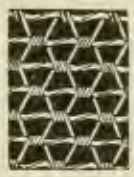

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4A13t R. M. SPENCER, Nordhoff, Calif.

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47th Year FEBRUARY 14, 1907 Number 7

AMERICAN BEE JOURNAL

Mr. L. A. Smith and Colony of Black-Carniolans, with 132 Pounds of their Honey.

Dr. G. Bohrer, of Kansas, with Bouquet Received at the San Antonio Convention.

(See page 126)

Apiary of W. O. Victor, of Texas, Wrecked and Ruined by a Bear.

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

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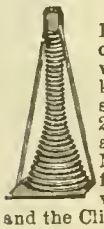

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We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ✦ POLITICAL ✦ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf "Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

THE BEE-KEEPERS' SOUVENIR POSTAL CARDS

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

are just the thing.

We send them by Return Mail.

As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10 cents (stamps or silver), or 5 FREE with the American Bee Journal one year at $1 00; 10 for 25 cents. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

GEORGE W. YORK & CO., 334 Dearborn Street, CHICAGO, ILL.

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

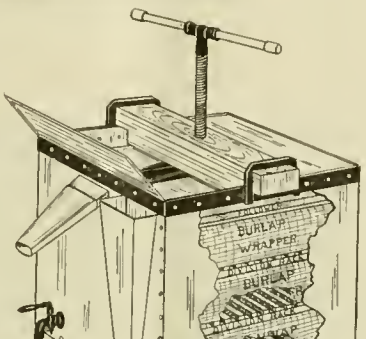
Good Goods and Prompt Shipment

Any bee-keeper living within a reasonable distance of Chicago can save **from 25 to 50 per-cent** on almost any supplies needed next season, by coming to Chicago and taking advantage of our

Fire Sale of Bee and Poultry Supplies

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. **191 AND 193 SUPERIOR ST. CHICAGO, ILL.**
(Three blocks north and one block east of our old location.)

For Sale 150 Colonies in new 10-frame hives, 3 yards, 3 houses, and large tent at home. Complete extracting outfit. New wagon and good horse. Best equipment to be found. 11,000 pounds last year. Bargain to close partnership. MURREY & BULL.
127 So. Howes, or 511 Stover St., Ft. Collins, Col.

6A2t **Please mention the Bee Journal.**

Send for free Catalogue.

Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

Write for prices on *Finest Extracted Honey*. Certificate guaranteeing purity with every shipment.

SPECIAL DISCOUNTS on early orders for **Supplies...**

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.
Mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Best No. 1 Sections per 1000, $4.00; No. 2, $3 40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.
H. S. Duby, St. Anne, Ill.
6A14t **Please mention the Bee Journal.**

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.
Mention Bee Journal when writing.

Notice to Illinois Bee-Keepers.—We have received the following from the Secretary of the Illinois State Bee-Keepers' Association, which should be of interest to every bee-keeper in Illinois:

The annual membership fee in the Illinois State Bee-Keepers' Association is $1.00, and by arrangement the National Association allows the members of other associations to come in a body through the secretaries at 50 cents per member. Having received letters from many who were already members of the National, we have resolved to accept such in the Illinois State Association (who already have membership in the National) at 50 cents. This will entitle them to a cloth-bound copy of the 6th Annual Report, which will soon be ready for the press. Those who come in before March 1, will be in time to get their names in the Report, in the longest list the State Association has ever had. And further, we have about 100 beautiful badges that will be given out to the members joining before they are all gone. JAS. A. STONE, *Sec.*
Rt. 4, Springfield, Ill.

American Bee Journal

Trade Notes. The A. I. Root Co., Medina, Ohio.

Gasoline Engines.—In the article found on page 87 of the American Bee Journal for Jan. 31, reference is made to the use of gasoline engines for hive-making. These are very useful in every shop and on every farm. Send for particulars of our $60 engine for this purpose. We have a complete engine and 8-frame extractor ready to run, for $100. This may be found on page 25 of our 1907 Catalog.

Danzenbaker Prize Competition.—We again refer to the Prizes mentioned in these columns for the last few weeks. Please turn to page 84 and read the same, and read the following from a Cleveland honey-dealer which is representative of letters we receive from the honey-trade in all parts of the country:

Mr. Calvert— Cleveland, Ohio, Jan. 26, 190—
Dear Sir:—Send me by next Electric Package Car, ——cases of 20 sections each, Extra Fancy Comb Honey. These must be Danzenbaker sections, as I cannot use any other kind.

In the Fancy Clover at 17 cents, about half of the sections were fine, while the other half had hollow spaces around the edge, and some empty cells. Yours very truly,
THEODORE F. ENSIGN.

There is no question but that it pays bee-keepers to produce Extra Fancy Honey, and with Danzenbaker sections you should obtain

More Honey,
Better Honey,
Higher Prices.

Catalogs.—Our 1907 Catalog is now ready for mailing and a large number are already in the hands of our bee-keeping friends. If you haven't received a copy send us a postal card request for the same. When you do this kindly mention the number of colonies of bees you keep.

Dealers' Terms.—We have found that it is to the advantage of bee-keepers generally if some one of their number will collect orders and send in to us, saving each party a good deal of trouble and making it a convenience by keeping a stock of goods on hand for the swarming time. To parties who do this we make special prices. If you handle bee-keepers' supplies for your neighbors, write us for our special terms, but do not expect to get special terms unless you give us in your letter some information regarding the amount of business done so that we may know you are entitled to special terms.

Seeds of Honey-Plants.—For many years Mr. A. I. Root has devoted much time and attention to this matter. We have fair stocks on hand, and shall be glad to send prices to any one interested.

Beeswax.—We are paying 30 cents in cash, 32 cents in trade, for pure average wax delivered at Medina or our branch offices. Jobbing agents for the most part are allowing the same prices. Do not make the mistake of holding your wax too long, expecting higher prices, for it usually declines shortly after the arrival of the spring offerings.

Ohio Maple Sugar and Syrup.—For many years we have each spring supplied quantities of maple sugar and syrup to our friends all over the country. We do not carry much stock on hand, and in order to get some of this, it is necessary that we have your inquiries and orders **at once**. There is a good prospect for a fair season with good quality of syrup and sugar. We can not name definite prices, however, until the season is open.

Observation Hives.—We did a large business the past season in observation hives. The Bigelow observation hives have also an increasing demand. We recently sent 4 to Argentine and 2 to South Africa. The Pearl-Agnes hive is also arousing a good deal of interest. Particulars of all of these may be had on application.

Bees and Queens.—We have previously mentioned the importance of obtaining good breeding queens. Be sure to send any orders for these early so that you may have a good selection. We recently had the report of safe arrival of 5 colonies shipped from Medina to Buenos Aires, Argentine.

Hotbed Sash.—The sash are of regular size, 3 feet 2½ inches by 6 feet, for 4 rows of glass 8 inches wide. If any prefer larger glass we will furnish sash for 3 rows of 11-inch glass at the same price. Made of cypress. These sash are usually shipped from here "knocked down" at a low rate of freight, and can be put together by any body, as they are mortised and tenoned in the regular way. They are 1⅜ inches thick, outside bars about 2½ inches wide, and inside bars about 1¼ inches. The bars are grooved to slip the glass in place. Price of one sash in the flat, for sample, without glass, 90 cents; 5 in flat, 85 cents each; 10 in flat, 80 cents each; put together, 10 cents each extra. Glass, 8x10, just right for the above, $3 per box of 90 lights; 5 boxes, $2.90 each; 10 boxes, $2.80 each.

Catalogs for Supply Dealers.—If you intend to issue a catalog of supplies, or bees and queens, or have any other job printing done, we shall be glad to quote you prices. With our improved facilities for doing this work and the large number of cuts we have for illustrating, we are probably better prepared to take care of any orders satisfactorily than any local printing office could be. We solicit your inquiries.

Gleanings Advertising Columns.—If you think of advertising supplies, bees and queens, or any other goods suitable for our columns, or want to run a classified advertisement of any suitable character, we shall be pleased to give you information regarding the cost of any size advertisement for any length of time. We have some very flattering reports from those who have used Gleanings the past year.

Clubbing Offers.—For those who haven't placed their orders for the season's reading we can still make some very low prices. We refer you to the offers made on this page for January 3rd. If you do not have that issue, write us for our premium and clubbing list.

Weed Process Foundation.—Increased interest is shown in the use of full sheets of foundation in brood-frames and sections as well, and when these are used it is all the more important that the best be selected; not only that a light weight may be had to save expense, but the best for the desired use should also be considered. There is every reason for using Weed Process Foundation. We shall be glad to send you samples of our make at any time, with prices on any order from one pound to a ton. A single dealer using 3 tons of this, and giving us his renewal order, is the best evidence of the value of our make.

Section Honey-Boxes.—We have long been headquarters for section honey-boxes, and yet if you are not acquainted with our product we shall be pleased to send you samples showing the same. We do not attempt to compete with those who solicit their trade on the basis of price only, but even with cheaper goods ours will be found the least expensive in the end. A certain well-known dealer bought a carload of cheap sections, and we are reliably informed that he was obliged to return nearly the entire lot to the factory. Do not make the mistake of buying cheap goods.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., FEBRUARY 14, 1907 | Vol. XLVII—No. 7

Cleaning Sections—Answering Questions

We have received the following from a California subscriber:

EDITOR YORK:—Kindly read "Colorado's" question No. 2, on page 786 (1906), and you will see that it says, verbatim:

"How many cases of 24 sections does your best hand clean in a day? What should be an average day's work for an average hand," etc.

Then read Dr. Miller's answer. Do you discover either in the one or the other the mention of T-supers? True it is we all, or nearly all of us, who read bee-papers have noticed that Dr. Miller is a great defender and advocate of the T-super system, but the misunderstanding of us here comes from the simple fact that in this part of Southern California we are working *not* the T-super, but the section-holder style. The Colorado inquirer did not speak of the style of supers, and Dr. Miller (being a T-super man) did not think that there are also other (unfortunate) bee-keepers who work the section-holder style. This, I think, you will admit to be clearly the cause of the controversy.

But, if Dr. Miller "as the great experienced bee-authority" is addressed to give an answer, it seems to me that he should have answered it a trifle more to the point; that is, he should have said, for instance: "The average work for an average hand with T-supers is so much; and the same for section-holder supers—it is so much." That, at least as far as I can understand, would have been just as easy for him as the answer given, and would have been hitting the nail fully. It is true that the Colorado questioner uses in his first question the word "you," but in his second question he does not do it. And, as said before, around here—and I think almost generally in our bee-region, where section honey is produced—there are but few who work the T-super. That, at least, has been my experience, and, to be frank, I very much regret it now, that my first "bee-instructor" was not in favor of the T-supers, and when I started the present apiary here, I had to take a certain amount of stock over in section-holder supers, and you know two kinds don't work well in an apiary. I gladly would now adopt the T-supers, even if the outlay for honey-boards is rather an item when it goes beyond the 100 and last year's dreadful failure does not ease matters for me.

Now, will you please tell me what is considered an average day's work by an average hand to clean sections from section-holder supers?

Yes, we have had, so far, 15½ inches of rain, more—far more—than does us any good; and having fallen so early in the season, we have our doubts about a good honey-year, as former experience has shown us that early rains usually do *not* do any good if not followed up by late rains, in April and May. And though copious rains (2½ inches) fell 9 weeks ago, and ever since followed up by alternating rains and cloudy or half-way clear days, there is no growing of grasses, shrubs, or the fields to amount to anything, because it has been far too cold weather. Manzanita is in glorious bloom, but hardly any nectar formed. CALIFORNIA.

San Diego Co., Calif., Jan. 18.

P. S.—The possibility—better say, fact—that by the T-super system 24 sections can be cleaned easier than one section by our section-holder system, would be most assuredly an inducement for me to adopt the T-super. Unfortunately, I have over 250 supers on hand, yet I would not mind the labor if an easy, practical way to change them to the T style could be pointed out to me.

Of course, Dr. Miller would be *the* man who could give me all needed information, only the fact is present that he does not answer letters by mail, and it takes so dreadfully long a time to get his answer (and then only in condensed form) in the American Bee Journal. And time is short if a change is to be made. You see that here I sit in a predicament hard to solve. Please, Mr. York, kindly give your prompt attention to this matter, and if there is a chance to come to my assistance, then do so.

Jan. 21.—For 3 days we have had—to our surprise—our genuine old California weather, with the sun in a cloudless sky, and we appreciate it, after the terrible siege. C.

Undoubtedly it did not occur to Dr. Miller that any misunderstanding would be in the case of his reply, page 786, and you will see that, as always, he tries to answer the particular case in hand. In fact, the trouble in the present case is that he did that very thing.

The question as to "*your* best hand" was asked and distinctly answered, and in the nature of the case it could have reference only to the T-super. Then the question as to "an *average* hand" as compared with "your best hand" could only be answered by referring to the same kind of super. Moreover, in Colorado many T-supers are in use, and it is not impossible that "Colorado" was a T-super man. With all this, it would have made it clearer to some if it had been mentioned that he was speaking of T-supers, and Dr. Miller will no doubt regret, when his attention is called to it, that he had not so mentioned.

But are you not a little in error when you think that, in addition to answering the question asked, Dr. Miller should have answered some others that were not asked? If he had, as you suggest, answered with regard to section-holder supers, then those who use some other kind of supers would expect answers, and his effort is to answer the questions asked, and not all the different questions that a number of others might ask but have not asked. You are surely in error in thinking that answering all these other questions he would have answered "more to the point." He answered specifically, and directly to the point, the question asked, and the way is open for any one else with any different questions to send them in without expecting Dr. Miller to anticipate them.

The delay in getting into print the reply to your letter (which is learned from your letter to Miss Wilson, which she has sent in with reply to part of it) is greatly to be regretted. It is an unusual, perhaps unparalleled case. Dr. Miller is always as prompt as possible, and it is a rare thing that he does not send answers within a week after receiving the questions.

Replying directly to your question, and basing the answer somewhat on the answer Miss Wilson has sent in, an average hand, under average circumstances, might be expected to clean something like 1000 sections a day of sections from section-holders.

It is to be regretted that you did not explain what you mean by the outlay for honey-

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boards to be used with T-supers, for at least Dr. Miller does not use honey-boards.

With regard to changing to T-supers, you should not forget that there are those who dislike them as much as Dr. Miller likes them, and he would probably advise that you go slow about changing till you know they would suit *you*. It is possible, too, that the supers you have might be changed to T-supers. Whether this be so or not depends upon the measurements of the super you now have. If you should think of making any such change, it might be worth while to give Dr. Miller the exact *inside* measurements of the super you have, and you may rely that he will take pleasure in advising what may be done in the case. Also he should know the kind of sections you want to use in said T-supers.

Carnegie and the Bee

Carnegie is reported as saying in an address:

"Don't interfere with the bee when it is making honey; but when it is through, take a big share of the honey."

Which is equivalent to saying: "Don't interfere with a man like Rockefeller, when he is accumulating a 'swollen fortune,' but when he is through with it let an inheritance tax take a share of it."

That's hardly fair to an honest bee, which doesn't get its honey by trickery from other bees, but by honest toil, leaving the way entirely open for other bees to do the same.

A New Kind of Bees (?)

When the veracious reporter can find nothing else to romance about, he betakes himself to the "busy bee." The latest is a clipping sent by Irving Long, with the comment:

EDITOR YORK:—Notice the new kind of honey-bees. How much some folks know, that they don't know at all. Notice how he introduces his bees. Seems to cross the workers of one kind with the workers of the others. Guess he has hold of some hornets.

IRVING LONG.

The clipping, which has also been kindly sent to us by others of our readers besides Mr. Long, reads in part as follows:

Captain John Holder, who lives in a cabin in the Arbuckle Mountains in Indian Territory, believes he has discovered a new kind of honey-bee, and he is trying to cross it with the ordinary bee.

"It is a strange mongrel honey-maker. They appear to be a mixture of gray coated bumble-bees and yellow-striped honey-bees. Most of them are as large as Italian queen-bees. They gather honey and deposit it in honey-balls in holes which they excavate in the ground. The honey-balls, or sacks, consist of a waxy substance, and are about as thick as morocco leather. Nearly every sack or cell contains about a half pint of the sweetest honey imaginable.

"I have been experimenting with the new-found honey-gatherers. I have been trying to tame them so that they will mix and live with my civilized bees. The new-comers are curiously inspected by the old settlers in the hollow stump or bee-gums. Often a terrific battle takes place. Then, very often, the aristocratic bees enter into amiable relations with the new-comers by letting them crawl into their hives. I am watching this cross-breeding process with keen delight, and will continue to introduce as many of the mongrels as I can capture. I think that, like Burbank in the vegetable kingdom, I may succeed in producing a new and more profitable honey-bee than is yet known to the world."

Ought not the Government to take hold of this matter? But instead of trying to cross these bees with every-day bees, why not keep them in their purity? Then, instead of fussing with sections, extractors, etc., the honey might be sold in "original packages"—half-pints. Could these bees not be trained to have their holes in the ground in straight rows? Then one could in the fall plow out the balls of honey.

"Please Answer in Next Number"

That request is not infrequently made by those who send in questions to be answered in "Dr. Miller's Question-Box," a request not often easily complied with. It takes time for a letter to travel through the mail, time to write the answer, time for the compositor to set up the type, time for an edition of the paper to be gotten ready for the mail, and time for the paper to reach its destination.

Then, too, it must be remembered that the time in the week has something to do with it. A letter may come just in time to get in with a certain batch of questions, and another letter, not 12 hours later, may have to be answered in the issue of a week later. It is the constant effort to have questions answered as soon as possible, but from the foregoing it will be seen that an answer in the next number that appears after mailing a question is asking a good deal of speed.

It is well that questions be sent in as early as possible, for sometimess a question is sent in urgent haste which could just as well have been sent in a month earlier. Also it may be well to mention that when a question is sent direct to Dr. C. C. Miller, Marengo, Ill., it stands a chance for an earlier reply than when sent to this office.

Mr. Victor's Bear-Wrecked Apiary is pretty well shown on the first page. Sir Bruin's picture was also taken as he reclined with head on a bee-hive. It was the last apiary that bear ever helped to ruin.

But what awful devastation was made of it! If an earthquake had shaken up that apiary it could hardly have presented a more complete wreck. We didn't suppose there were still any bears in the bee-keeping part of Texas, but it seems there are. But there was at least one bear less after Mr. Victor's apiary of some 50 colonies was destroyed.

Being lovers of honey, it is no wonder that bear meat is so good to eat. No doubt Mr. Victor and his friend enjoyed eating that particular lot of bear steak.

We thought our readers would like to see what a big, healthy bear can do to an apiary when he does his best, hence the picture we have reproduced.

Mr. Smith and Black-Carniolans.—When sending us the picture on the first page, Mr. Smith wrote thus:

EDITOR YORK:—Most bee-keepers think that the black-Carniolans are worthless, so I am sending you the picture of a colony in the act of finishing 132 pounds of honey, which you will see is in the sections. My honey retails for 25 cents a section, thus making $33 for this colony. Counting the stings I got at a cent apiece (which I think is remarkably low), they would be worth $50 more. But when I want a "good scrap," I stir up my pure Italians. I can almost hear Dr. Miller say, "Serves you right for trying to handle bees while dressed in black." But if he could see the way they jump on, and try to puncture, those white buttons, I think he would be willing to try some other "medicine."

L. A. SMITH.

Flathead Co., Mont.

Dr. Bohrer and His Bouquet.—One of the beautiful things connected with the National convention in San Antonio, Tex., last November, was the general good feeling everywhere apparent between those of the South and of the North. Dr. G. Bohrer, of Kansas, who was not only one of the oldest bee-keepers present, but who also had been a federal surgeon in the Civil War, spoke such fraternal words of greeting at the opening of the convention, that many hearts were touched, and the result was that the following morning Mrs. Krebs presented the Doctor with a large bouquet of flowers. These were prized so highly that they were taken to Dr. Bohrer's Kansas home and photographed as shown.

So far as bee-keepers are concerned, "the war is over," and has been over for a long time. It may still exist in the overheated minds of certain politicians, who think they must ever be stirring up discordant memories in order to win, but to the peace-loving bee-keepers of our country this is an undivided nation, and they will stand united for its highest progress and strongest defense.

Fillmore Co., Minn., Convention.—This is reported as follows by the Secretary:

The 5th annual meeting of the Fillmore County Bee-Keepers' Association was held at Preston, Minn., Jan. 25 and 26, 1907. The meeting was a very interesting and harmonious one throughout. Ever since it was organized its members have been getting supplies at wholesale rates. At the time of its organization no one had an idea that a carload of comb honey was produced in this section of country, but in the fall of 1905 a carload was shipped from Harmony, and in the fall of 1906 two car-loads were shipped, one

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from Harmony and one from Canton. But owing to a wide range in prices paid by the men who gathered the honey up for car-load buyers, and for other reasons, there was dissatisfaction among the honey-producers.

At this meeting the constitution was changed, and an executive committee of 3 were chosen to act as financial agents in buying supplies and selling honey for the Association; and a strong resolution was passed binding its members to sell through this committee direct to car-load buyers.

If the bee keepers would unite, and cooperate in buying supplies and selling their own honey direct to buyers of car-lots for cash, many more such associations could be formed throughout the country, and the members would realize much more profit in bee-keeping. P. B. RAMER, *Sec.*

Bee-Keepers 'Meeting at Yorkville, Ill.—The afternoon of Jan. 30, some 30 bee-keepers held an informal convention for about 2 hours, at Yorkville, Ill., the discussions being led by C. P. Dadant, ex-President of the National Bee-Keepers' Association. His part was principally answering questions along practical work in the management of bees. The questions discussed were mainly these: Wintering, with special reference to comparative merits of cellar and outdoor; stimulative feeding; prevention of the depredation of bee-moth; the use of shade-boards; bee-pasturage, and incidentally the distance of bees' flight; and other subjects of minor value. The discussions were pretty generally participated in by those present. There were quite a number of ladies present also, some of whom are, or have been, bee-keepers.

After the question-box it was found to be the desire of some of those present that a local association be formed, and 8 gave their names. Officers were elected as follows: President, Geo. Elliott, of Yorkville; Secretary and Treasurer, Robert B. McCain, of Oswego, Ill. The time and place of the next meeting was left in the hands of the officers.

In the evening Mr. McCain delivered a lecture on "Bees and Bee-Keeping." It was a larger gathering, and all were interested. There was also a program of music furnished by the Yorkville people.

No doubt more will be heard from this new organization later on.

Again the Wide Frame vs. the T-Super

BY F. GREINER.

It had been my intention not to say any more on the subject of T-supers vs. wide-frame supers, but since many of my friends hold that, as matters stand now, the wide-frame has received "the black eye," I will once more defend the super which I use.

The wide frame consists of 4 pieces, as follows::

1. The top-bar. It is of the width of the narrow parts of the sections used. A thickness of $\frac{5}{16}$-inch is sufficient. It projects over the ends of the frame like a regular brood-frame and hangs in a rabbet.

2. Two end-pieces. They have the width of the wide portions of the sections used, and should not be less than $\frac{3}{8}$-inch thick—perhaps $\frac{1}{2}$-inch would give a better chance for nailing, but in my own supers I could not very well use them thicker than $\frac{3}{8}$-inch, so I have been content to have them thus, and I can assure you that there is no trouble about these frames giving out anywhere. I should judge they might outlast several generations of mankind with fair treatment. When getting out the ends of wide frames, I select the best timber—a medium-hard variety like whitewood or chestnut, if possible, although I have many in use made of butternut, basswood, and pine. By careful nailing with long cement-coated nails, the frames are made as rigid as if they were all in one piece. There is no tinkering needed ever after; this in answer to what has been said by others as to the frailty of the wide frame. Of course, a *section-holder* lacking the top-bar must of necessity be weak, or at least weaker.

3. The bottom-bar is of the same dimensions as the top-bar, except being shorter.

When these 4 pieces are nailed together properly by the help of a nailing-block, such as I illustrated years ago in different bee-papers, we have a frame that is all right.

A separator may be nailed to this frame, or it may be so arranged as to hang between the frames just like a frame. The latter arrangement would have some advantages. The Betsinger wire-screen separator-super makes use of this feature.

The wide frame can also be adapted to the no-bee-way sections. I use both kinds.

There must be room enough in the super so as to have a space at one side for keying up. Wedges, springs, or screws may be used to tighten the frames and to take up the slack. The closer they come together the better. Of course, proper bee-spaces must be preserved where necessary. If there is room enough a Pettit double bee-space may be had at the sides of the super. The separator should be as wide as possible and still allow the bees freedom to pass from section to section.

In the above I have given the essential features of the wide-frame super, which may answer some of the objections raised.

It is immaterial which way the section is placed in the wide frame, the lock-corner up or down. With the T-super it must be used "up," although Miss Wilson wants the weak corner (lock-corner) down.

I infer that the bee-glue in Marengo is of a greasy nature and cleaves off; here it sticks "to beat all." The trouble and difficulty of taking the full sections from the T-super lies in this stickiness of the propolis. It cements the tin to the section, and can not be persuaded or forced to let loose. Usually the bottom of the section comes with it, and often the T's get out of shape. When a T is used on the top and bottom, as Mr. Armstrong prefers, then the trouble is aggravated. I know of no more successful method to cement a lot of sections together than by using T-tins at top and bottom. Other bee-keepers hereabouts seem to have found this out long ago, judging from the cast-aside T-tins and T-supers I have found in my travels. The best use some could find for the latter was as "Cucumber boxes" in the garden; for this use they are too expensive, although they protect the cucumber plants, when netting is thrown over them.

No matter how badly a wide frame is propolized, the filled section can be pushed out, whether the propolis is hard or soft. The section moves over the wood of the wide frame as the two blades of a pair of shears work, and the glue is "cut." But when you attempt to "lift" the T off from a block of sections, as Miss Wilson says, and does, it is like pulling an adhesive plaster from one's back. The skin lifts up with it, so also does the bottom of the section when one tries to lift the tin. For that reason I want the lock-corner *up* in a T-super; the strongest part is needed at the bottom. In the shipping-case I may place the sections as I please. If all honey is sealed one may place them either side up without bad result. I do not need to use full sheets of foundation and bottom-starters to accomplish well-filling, and sealing of sections, either.

I am well acquainted with Dr. Miller's Editor Hill's, and others' method of taking the honey from a super *en masse*. Even if we are not inventive, we read. It is an old practice and we know all about it. A great many things are not mentioned by writers because they think everybody ought to have sense enough to do things in the best manner according to existing conditions. What may work well with one may not work at all with some one else, and I expect these discussions will bring out minor points overlooked before, and not mentioned.

The different supers I have in use which leave the tops of sections exposed (including the T-supers) I have always tried to clean on top with a scraper, like the one mentioned by Miss Wilson and Dr. Miller, and considered it a matter of course. By the way, this scraper is the very best thing to clean wide frames, wood-separators, hives, and supers. I have them in each bee-yard. One can

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make them out of a worn-out cross-cut saw. Grind them on the grindstone occasionally and have the edges straight and square. I want half a dozen of them in the honey-house, then when we are ready to prepare supers for another season, we make "a job" of it. Boys and girls, and other cheap help, can be set to work at once, and in a very few days we have everything clean. Wood-separators may be cheap, but they may be cleaned much cheaper, and are fully as good then as new ones.

Now, while I think the cabinet-maker's scraper is a good thing, it is of no use to me when fitting honey for market from wide-frame supers. A sharp knife answers much better, although I have tried other devices as they have come up from time to time. I must, however, confess that I can not come up to Miss Wilson. I consider 20 to 25 cases (of 24 sections each) a fair day's work, putting in 10 hours a day. I think if Miss Wilson had wide-frame supers, she might clean and crate in the neighborhood of 5000 sections per day, working with the same swiftness and putting in as many hours as she does.

If I were to use supers which did not protect the sections " all around," I would surely make use of a sand-paper-belt or machine, because no matter what other tool is used in freeing filled sections from bee-glue, it is not possible to make them look very nice when they are as badly daubed as a large portion of mine are, or have been, while I had them in use.

I have always wondered why the tops and the bottoms of bee-way sections were made as narrow as they are. I fail to see why they were not made as wide as possible, and still give ample room for the bees to enter them. Suppose we make them just ⅛-inch narrower than the sides, there would be ¼-inch plus the thickness of the separator between them. If we now let the separator come within ⅛-inch of the upper surface of the bottom and lower surface of the top of the section, no matter what the thickness of the section may be, there will be sufficient room for the bees to pass and enter without any danger of the bees building through under or over the separators.

A wider bottom of the section than is ordinarily given protects the honey in the shipping-case and while handling it, and also acts as a queen-excluder—not absolutely, but it tends that way.

Mr. Armstrong misunderstood what I meant by "bees crowding bee-glue in between the top-bars and sections." While this is a bad feature of the wide frame, I want every one to understand both the bad and good features. Dr. Miller knew well what was meant, which is apparent from his answer, but Mr. A. has not used the regular wide frame. What I referred to is this:

When the sections sag a bit, as they do sometimes with weak bottom-bars, they drop away from the top-bar of their holder and there the bees chink the glue into the space thus formed. This sagging has as a sequence "diamond"-shaped section honey. Under no consideration would I attempt to "square" them to make them go into the shipping-cases, no matter how "warm" they might be. No, don't try it! Crate them as they are. Make room for them in a shipping-case, somehow.

Naples, N. Y.

Home Made Hives, Supers, Etc

BY EDWIN BEVINS.

With an experience somewhat like, but in many respects different from that of Mr. Greiner's, I feel constrained to enter a protest against the tone and intent of his article on page 963. The article was evidently written with a view to discourage all but a very limited few from the attempt to make their own bee-hives out of any material, and especially out of the material to be found in dry-goods and grocery boxes. It is no doubt true that there are many bee-keepers, and others who would like to become such, who would do well not to try to make their own bee-hives. I will not do any one of this class the possible injustice of supposing or insinuating that the reason why he should not try is because of a lack of intelligence. There are other reasons, which the imagination can easily supply, why some men should not try to make their own bee-hives.

But there is a large class of bee-keepers who ought to make their own bee-hives, and should be encouraged to do so, because they can save themselves much money if they are needing many hives, and have some time not taken up by other pursuits. It is for this class of bee-men who are using the single-wall hives of the 8 and 10 frame dovetailed size, that this article is most particularly designed. Many of the suggestions and much of the advice I think may be found of use to the users of many other kinds of hives.

Since the commencement of my bee-keeping days in the early '90's, I have made more than 200 hives and the supers for same. When I began to make my own hives, I bought lumber at the near-by lumber yards, but since making the acquaintance of the much-despised grocery and dry-goods box, I make use of it altogether, not only for hive-bodies, but supers, covers, bottom-boards, shipping-crates, and many other purposes.

I believe that Mr. Greiner belittles his own ability when he says that he can not make "something out of nothing," which, interpreted, means that he can not make a good bee-hive out of grocery and dry-goods boxes. I feel quite sure that Mr. Greiner can do it if he will. I *know* that I have done it myself, and what I have done I am reasonably sure that lots of other men can do. I have hives made from the material found in goods boxes, that are as good as any of their kind that ever came from any factory, and at much less cost than the factory-made hive. Some hive-bodies have been made at a cost not exceeding 5 cents each for material.

Mr. Greiner lays great stress upon the difficulty experienced in getting lumber of uniform thickness out of that supplied by the store-box. How much of the lumber in a hive needs to be of uniform thickness? The hive-bodies and supers. I never found any difficulty in finding enough of uniform thickness for these. A few shades difference between the thickness of lumber for these and that for bottom-boards and covers cuts no figure. Reasonable accuracy in the make-up of a hive is desirable and necessary, but the bees will be no more comfortable and will store no more honey in a hive, the architecture of which is ideally perfect.

I make a good many hive-covers for 8 and 10 frame hives that are of one solid piece of board with cleats projecting downward at each end, and have no reason to find half so much fault with this kind of cover as Dr. Miller does. Anyhow, I will venture to advise the man who finds some good boards in his store boxes that are wide enough for the purpose to utilize them for hive-covers. He will often be surprised at the little they have cost him. In the absence of this kind of cover, obtained from the source mentioned, I would make covers with dead air space as mentioned in the book, "Forty Years Among the Bees," with this difference: I would have cleats at each end projecting downward. These cleats are an abomination to the Doctor. The absence of them is an abomination to me. I can handle covers just as fast with them as without. I do not have any covers blow off, and I do not have to hunt up weights to hold them on. The material for these covers is generally to be found in store boxes, as much ⅜-inch thick lumber is used to make the sides of the boxes. As the material for such covers does not cost any appreciable sum, one can well afford to cover them with tin or zinc.

Dummies, division-boards and telescope covers may also be made from the box-lumber we are discussing. Read "Forty Years Among the Bees" and learn how to make a dummy. The dummy or division-board we get from factories is too frail a thing ever to have been born into this rough-and-tumble world of ours, and should be relegated to the rubbish heap along with the ½-inch square bottom-bar, and some other things easy to mention. I make many dummies out of ⅞-inch lumber sawed with projections at the upper edge for the support of the dummy. No need to nail on a top-bar.

Box-lumber can also be used very satisfactorily for shipping-crates for comb honey. Get the measure for your crate in this way, if you want a crate for 8 shipping-cases: Place 4 cases on a level surface and another 4 close beside the first 4; measure length, width, and height; make allowance in height for at least 4 inches of hay in the bottom; make allowance in measurement for top-frame to take in boards used for sides and ends of crate. I crate my honey so that no glass is exposed, and find it gives best satisfaction.

What I have written has reference to bee-keeping and bee-keepers as they are found under existing conditions. I will modify that by saying that I have written not for the specialist, but for the man with a few colonies, and from that to the 100 and 200 colony man. What I have written is not intended for the age of bee-keeping when the pursuit

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has fallen into the hands of the specialist, and bee-keeping territory has been divided and subdivided, and placed by legislative enactment under the specialists' control.

There was an old English worthy (was his name Sir Phillip Sidney?) who went in search of Utopia. I have not heard that he ever found it.

Leon, Iowa.

Lower Freight Rates on Honey

BY W. H. PUTNAM.

To my mind the most important subject that has recently come up for discussion among bee-keepers is that of better freight-rates on honey.

Mr. Fred W. Muth sprung it on the San Antonio convention, and a committee consisting of Mr. France, Mr. Muth and Mr. Holekamp, was appointed to go before the various classification committees of the railway rate board, to present the matter. I have had some experience in seeing the rate men, and it is a well-defined habit of railway people to charge all the traffic will bear. It will be necessary for that committee to emphasize the fact that the bee-keepers cannot afford to pay the rates now in effect; that the present rates are keeping men out of the business. It might also be well to point out the fact that honey can be, and is being, shipped in large quantities from Honolulu to the central United States for less money than honey can be shipped from various places in the United States; that Cuban and Jamaican honey is filling the place which the domestic honey should fill.

I have several times been before rate men, and invariably the first question they ask is, "Where is your competition?" The bee-keepers have a good chance now to send this matter home.

Rates on supplies are sadly out of line, also. There are many instances where the freight is greater for a shorter haul than for a longer haul. For instance, Reno, Nev., located on this side of the great range of the Rocky Mountains, pays $1.15 per 100 pounds in car-loads; while the same road will pull the freight over the same ground and up over the mauntains 800 miles farther (to San Diego) for 85 cents per 100 pounds.

Again the rate to southeastern States —Georgia, etc.—is greater than to Cuba or Jamaica.

There is a certain amount of educational work to be done in two directions. It seems to me that we should first educate the bee-keepers to pack their honey in carriers (I mean comb honey). It is the poorly packed honey that goes to pieces, and leaks and daubs the cars, and spoils other goods, that gives the whole honey the bad reputation.

I know that many bee-keepers do not read the bee-papers and that it will be impossible to reach them through that means; but touch a man's pocketbook and his heart is yours, every time. This committee has the best chance in the world to educate the bee-keepers through the pocketbook.

Let the committee point out to the rate people the difference between the risk in handling honey put up in carriers and that shipped in supers. Make a recommendation for a higher rate on the latter, and a lower rate on the honey packed in carriers; and the expense will fall where it belongs—*on* those who are too ignorant or too stupid to learn.

River Falls, Wis.

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

First Bee-Keeping in the South

Grandfather and I have been keeping bees in the South for 91 years; counting the period that my great-grandfather, kept bees it would be over a century, and perhaps the first days of bee-keeping in the South. Arriving here from across the waters, and prospecting a few weeks, he wrote back that he was satisfied, and thought that he could raise potatoes, corn, and tobacco, and from the amount of blooms he saw, he thought he could "raise" honey, too, but could not find any bees, and when he sent for his wife to come over to him, he wrote her to bring along one colony of bees. But she did not succeed in getting here with them, but when her parents paid them a visit a few years afterward, they succeeded in getting over with a small colony and he established the first apiary in the South on the Savannah River, between Savannah and Augusta, Ga.

The hives were made of hollow trees, which, by the way, is a quite prevalent method in some localities here yet. The bottoms of the "gums" were beveled off with an axe so that the bottom edge was nearly sharp; the gum would not decay so soon at the bottom in that way, and would give better access to the insects which were supposed to go in mostly around the bottom. The inside of the gum was cleaned out well, and made as smooth as could be, with an axe. When the bees were hived in these gums, they were set on a block (a short cut of a solid tree sawed off 10 or 12 inches long), and another of the same dimensions was laid on top for a cover, for lumber was not yet sawed here.

Many are the stories handed down, of the Indians and this apiary, for they seemed not to have any knowledge of bees. On one occasion, my great-grandfather left his wife in his cabin, which was a small log-house with the earth as a floor and furnished with 2 one-legged beds and 2 cooking utensils, a frying pan, and a skillet. He had not been gone long down the river in his dug-out for the boat-landing, when an Indian all at once appeared in the cabin for no other purpose than to steal. Looking up at the frying pan as it hung on the wall, and nodding his head a few times, he took it down. About this time the dog came to the door and the Indian made friends with him and tied him. Going out the door, he saw the ax, and nodding at that a few times, he picked it up and started off with dog, frying pan, and ax, but stopped at the bee-hive. Nodding his head a few times again, he undertook to satisfy his curiosity by prying the top off, and, of course, the bees responded actively. Passing his hands over his face a few times as if he were washing it, he clutched his hands in his long dark hair, gave a few loud whoops, and disappeared as he had appeared, but leaving his stolen goods.

Many times the bees in this apiary died out, but by this time there were some bees in the forest, and they kept drawing from it for "starts," and soon others had "starts," and so on. There was no market for honey, but if there was any left after all the settlers around had had what they wanted, it was carried to boat-landings and exchanged for such things as they needed.

Grandfather fell heir to the apiary at his father's death, and he kept it up for years, receiving good returns, and was perhaps the first shipper of honey to many of the large towns.

He said there was one great drawback to the progress of the bee-industry in his best days as a pursuit, and that was, the combs were not movable, so as to give access to the needs of the bees; and, when lumber was being sawed, he decided to overcome this if possible. He bought some lumber, made some hives, and tried to make the frames from good splitting timber, but was not successful. After many efforts for several years, he gave up and went back to box-hives, but always had a large, well-cared for apiary of this style of gums.

Cordele, Ga. J. J. WILDER.

How different early bee-keeping must have been from that of today! Who could imagine the life of a bee-keeper with the "red man" all around his apiary and his home, and the old-style "log-gums" for hives? We are glad times have changed, and a narrative like the one here presented, only makes the readers of the present time feel more grateful for the bee-keeper's life we are enabled to live now.

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It is amazing how few people know, or even stop to think, that our honey-bee is not a native insect of North America, but that it was imported to our continent. Hence it is that honey-bees were regarded as strange creatures by the native Indians. They called them the "white man's fly," and as the swarms spread on in advance, civilization follows. Thus, as the Indians found bees upon their hunting grounds, they left them and moved further west, knowing that the white man would soon follow.

A Visit to Bee County, Tex.

On April 17, 1906, I presented myself to the transportation Company here for passage to the bee-paradise of Texas. At 2:15 p. m., I boarded the cars and soon was speeding southward, amid varied scenery, ranging from the best cultivated fields of cotton and corn to the most dangerous-looking prickly pear wilderness. Ere long we were flying through a perfect wilderness of mesquite and other shrubbery. Soon catclaw and other honey-bearing plants began to appear. The further south we went, the more luxuriant the growth became. A sickening sensation betook me as I beheld the wonderful waste of nectar on every side, while I had to keep a honey or sugar cup under my bees' noses to prevent extermination by starvation.

At 4:30 p. m. I arrived at my destination in Bee County. I knew but two men in the town, Mr. W. H. Laws and Mr. Will Atchley. As I had come a day sooner than I had intended they did not expect me. Not knowing what better to do, I started to walk about the city and presently ran upon Mr. Will Atchley's factory, where he had a good force of men busily engaged cutting bee-hives. After a short chat with Mr. Atchley and his wife, I went on to see Mr. Laws, the terminus of my trip. I found him running his factory on full time and making hives and other accessories for home use and for the public. It is unnecessary to tell how glad two bee-men are to meet each other, and how each of them is ready to divulge a superabundance of knowledge that has never been told before! and how each wants the other to listen while he propounds his superior knowledge and methods! So both of us had more to talk about than we thought, and passed the evening very pleasantly.

The next morning, after Mr. Laws had shown me around his home place, we started for the apiaries, which are located from 5 to 30 miles from his home. He has 21 apiaries located in and near the Nueces Valley. His apiaries have 1300 colonies of bees, a few of which are in partnership. We started in a westerly direction amid a most luxuriant growth of mesquite, catclaw, blue sage, etc. After we had traveled about 2 hours, we arrived at the top of a hill from which we could see 7 of the apiaries. Mr. Laws is a bee-man of the first magnitude—born a bee-man, I'm sure, and could not be otherwise. Presently we came to immense patches of wahea bushes in full bloom, and plenty of cat-claw, interspersed with horsemint, mesquite, and other honey-bearers.

Now we were near the yards, and Mr. Laws' watchful eyes scanned all the flowers to see if bees could be seen on them. Soon they became plentiful, and soon we drove into a bee-yard that Mr. Laws calls "Lower Burk." This yard was torn all to pieces for queen-breeding purposes. These were Italian bees and we found many queens of all ages, and caged a few.

Next we drove to the Holy Land bee-yard for some examinations, and to catch some queens. Mr. Laws claims the distinction of having the largest Holy Land yard of bees in the United States. After catching a few queens and one swarm of bees, we spent the rest of the day visiting other yards, and catching a few queens, making examinations, etc. We spent the night with a hospitable family, after which we started back, visiting other yards and catching more queens, and arrived at town shortly after nightfall, about one hour before my train was due, on which I was to depart.

Mr. Laws is one of the United States' best queen-breeders. He has about a half-dozen strains of bees in different yards and sold in the neighborhood of 2500 queens last season, falling far short of orders. He is a very conscientious, Christian gentleman, and always tries to furnish the best to be had. He has his bees located in 3 circuits from his home, which comprise a travel of 130 miles to visit all the yards. There are a few bees kept at home and at Goliad. The last 2 or 3 years have not been at all satisfactory for honey in this locality, but excellent for breeding and queen-rearing.

Among the excellent plants for honey, we list the following: Blue sage, catclaw, wahea, currant, mesquite, horsemint, rock-brush, white-brush, cleome, broomweed, and "knockaway."

T. P. Robinson.

Report of the Michigan State Convention

REPORTED BY R. F. HOLTERMANN

(Continued from page 112)

Mr. E. D. Townsend, Michigan's most extensive bee-keeper, read a paper on:

LOCATIONS AND LOCATING BEE-YARDS

Locations, from an apiarian viewpoint, in Northern Michigan are an uncertain quantity (what I mean is a location that will support say 80 or 90 colonies, spring count, and produce a surplus of 60 or 70 pounds of extracted honey, year after year); for in our great and beautiful State, occasionally we find a location that would hardly pay from a dollar-and-cent view, to keep bees. Generally speaking, Michigan is very broken. There are inland lakes whose waters sparkle in the sunlight, where the pike, bass, and perch are in their element. Innumerable hills, dales, creeks, and rivers, add variety to the landscape. Then there are the marshes made fragrant with their asters and boneset; and last but not least, the beautiful goldenrod. The soil varies from the veritable sand-dune to the most productive and richest loam the world ever produces. But the soil is only one of many things to take into consideration when looking for a bee-location. While I know several fine locations in old, fertile, well-cleaned-up sections, the better ones are in a rather newer and broken country, where the land is not being cleared off for farming purposes.

These conditions are more likely to be found in the northern half of lower Michigan. While there are some fine locations in the lower part of the State, that produce good crops of honey, they are farther apart, and not so sure of a crop, as father north in the white clover and red-raspberry districts. I suppose most of those at this convention keep but one yard of bees, and that one right where Destiny has dropped them down, either on the farm or on a city or village lot, and, in this case, the only alternative is to find out how many bees your location will support, and when you have acquired the number of colonies. So, with fairly intelligent handling, your surplus falls to say 40 pounds of comb or 60 pounds extracted honey, in an ordinary year. This, in the opinion of the writer, would be the low-water point of a profitable surplus. What say you, members of the convention?

But we will suppose you are established in a location where bee-keeping does not pay. Perhaps you own a farm, or otherwise it is not desirable to move to a more productive honey-location. In this case the out-yard will solve the question. And right here comes in one of the most important parts of successful bee-keping, and that is a good location. The great benefit derived from the out-yard is that one does not have to accept any location he may happen to be in, but can go to the best location he knows of and establish his apiary. Of course, it would be convenient to have one's bees as near home as possible; but put them into the best pasturage you know of, even if it is a day's ride by rail between yards.

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The best location the writer knows of in the southern half of lower Michigan, is a heavy clay soil. This heavy clay is especially adapted to the raising of clover-seed. Especially would I look for a location where alsike clover is produced for seed. Then, if one could find a place as above, that included quite a quantity of basswood timber, it would make the location somewhat better, although basswood is not a very sure yielder here. When everything is favorable, it does not require a very large tract of basswood timber to produce a nice lot of surplus honey.

Then, in *this* immediate location, and farther north, the wild raspberry and white clover produce our surplus. In looking for a location in the white clover and red raspberry districts, as we have to do in this location, don't forget the raspberry, for I am convinced that much of our supposed clover honey is ¾ wild red-raspberry. Further north, in the hardwood slashings, wild raspberry is practically all there is to look for, and this same wild raspberry is our surest and best yielder. This raspberry is in every way, equal to clover; that is, what is produced on the light sandy loam of northern Michigan. Raspberry honey from the southern counties of our State, on the heavy clay soil, is of an amber color, and can't be compared with our beautiful white honey from the north.

Another point to be considered in locating apiaries, is buckwheat. It does not produce any surplus in lower Michigan, but in favorable seasons yields well when grown on our sandy, loam soil in this locality and farther north.

Now, next to the importance of a good location is a sheltered nook in which to place our bees. Our best outside protection is secured by going into the woods and clearing off an acre or so to put the bees on. This outside protection from the cold spring winds allows our bees to build up much earlier in spring, so as to be ready for the surplus season in June. If one's yard is already located, and it is not desirable to move them to a sheltered place, the next best thing to the natural protection mentioned above, is a high, tight, board fence, 6 or 8 feet high, on the north, east and west sides, leaving the south open. While this is not so good as the natural protection mentioned above, it helps a good deal.

As to the benefits of outside protection, I do not think I can do better than to tell you of the experience of one of our members, Mr. Geo. H. Kirkpatrick. Mr. Kirkpatrick's home yard is in, or *was* when this experience taught him the value of outside protection—in an unprotected location. The experience was as follows:

A year ago last spring he moved about one-half his home yard to a well-protected location, 3 miles from home. The colonies were not selected, but were taken at random from his home yard, and were all wintered in the same repository. The fact was, the bees were the same when moved, and the location also the same. The results were that the protected out-yard built up strong and were in so much better shape at the opening of the season that they filled an upper extracting super with honey before the home yard was strong enough to need an upper story, and they kept this upper story ahead clear through the season. The figures would be something as follows(we will suppose the number was 50 colonies): One 8-frame upper story each 40 pounds; that would be 2000 pounds of extracted honey, at 8 cents, or $160 from 50 colonies in one season, all credited to outside protection. E. D. Townsend.

S. D. Chapman stated that one should be careful as to conclusions. He mentioned a case where, in one locality, from maple cut during the winter, the bees were able to get an abundant supply of maple sap in the spring. These built up into fine shape and were much heavier than another apiary otherwise similarly situated.

Mr. Kirkpatrick stated that he had an apiary in an old, settled district where bees did not have a chance to build up on maple sap from maple timber cut the previous winter. The apiary was located on a spot with only a few rods cleared in standing timber. It was excellent.

A discussion followed on the length of time one raspberry patch would be of use. The facts appeared to be that one patch would exhaust itself in 6 or 8 years; that unless a fresh piece of timber was cut where fresh raspberry canes would spring up, and such a location was the desirable one, the location would be exhausted for raspberry honey. If, however, the patch was burned off in the spring when the ground was wet, a new growth would spring up; but if the fire took place in summer, or when the ground was so dry that the black soil would be destroyed, then neither raspberry nor anything else would spring up.

Producing Ripe Honey.

Mr. Holtermann gave an address on ripe honey. Not enough attention had been paid in the past to having the bees ripen and evaporate the honey. What was known as an inferior-soureed honey, if well-ripened, was really a more desirable article, if left to the bees until capped, than the better grades taken away when thin and unripe. A bee-keeper that sold the latter required constant exercise of new energy to get new customers.

Mr. Chapman thought that the bees added something to the comb as they built it, which gave the honey stored in fresh comb a different flavor.

Mr. Holtermann stated that it might be so, although he had never noted the difference.

Pres. Hutchinson said that he had heard that the best honey is secured by giving the bees foundation to build out as they stored, and that such honey would be of a better quality than that taken from previously-drawn comb. He thought it might be because the comb was drawn out while being filled by the bees, and that the honey would evaporate better.

Foul Brood.

Pres. Hutchinson gave a very able address on foul brood, dealing with a sample he had, so that every one in the room could get thoroughly acquainted with the disease. He also advocated more inspectors for Michigan.

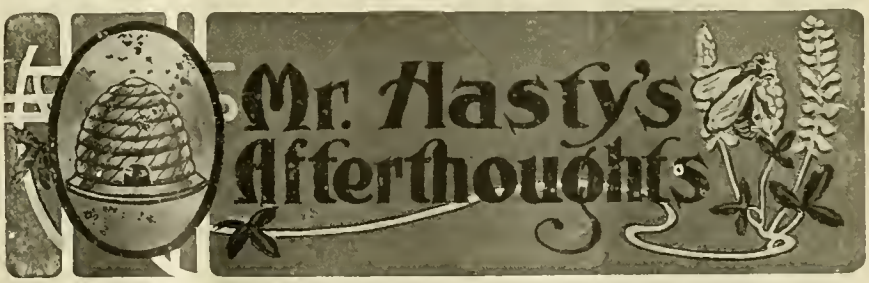
Mr. Walker said that every township should have an inspector, as they had it for the "peach yellows." Foul brood in the State was very wide spread. This appeared to be the general opinion, and steps were taken to endeavor to get a much larger number of inspectors, and a larger grant for the purpose. Mr. Hutchinson, the present sole inspector, led in the move for more men.

Evening Session.

The evening session was held in the fine Court House, a thorough credit to Big Rapids, and to the kindness of its officials in putting it at the disposal of bee-keepers. Also a credit to the energy of the Michigan State bee-keepers, and no doubt in no small measure to Mr. Geo. E. Hilton, resident in the locality.

Mr. Elmore M. Hunt gave a demonstration in handling bees in a cage. One or two bees acted as if they had been feeding on plum-pudding or mince-pie the day previous to going to sleep (it was Dec. 26), but the demonstration was entirely successful and no doubt would have interested a much larger audience than the one present.

Thus closed a very successful convention with high hopes in the bee-keepers' breasts that the next Michigan State convention would be held in union with the National, at Detroit.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Testing Various Races of Bees

If Prof. Scholl is to run a dozen test apiaries next season, and give each of the current races a test, we shall look for those "reports later" with decided interest. He seems to contemplate only one kind at a location—good for

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the most part—but one out of the dozen ought to be Caucasians and Italians, half and half. Only way to bring the former exactly "to book" in the important item of honey-storing. Not absolutely necessary that they should quite equal Italians, but we want to know just where they are at. Page 1051.

TIME SPENT IN OVERHAULING COLONIES.

So C. P. Dadant has seen bee-keepers who would spend 2 hours overhauling half a dozen colonies. I have seen one such—in the looking-glass. But I guess we won't quarrel much. The *aim* of all should be to have things in such a condition that the needed manipulations need take but a few minutes. Don't spend 2 hours over 6 colonies when 5 minutes for each might just as well suffice—unless you are overhauling for fun or for self-educational purposes, and then the 2 hours are all right. I was steering toward the remark that the good theory and the actual practise sometimes get wide apart at my yard—and I suspect that mine is not the only one. Page 7.

GOING INTO SOMETHING NEW.

F. L. Day alludes to an evil, on page 7, that may as well be clubbed a little more. One prominent apiarist does well with something new. Presto, all the rest must be voted ignorant or stupid unless they dive into the same, and make a success of it also. What nonsense! Are men sheep, that they can not be easy an hour except in a flock? I believe one Ohio man once made someting of a success of raising figs. Must all Ohio farmers raise figs, then?

CHANGING TO AN EXACT POUND SECTION.

L. V. Ricketts wants to enlarge the usual section in one direction until a crop of honey will average pounds. When he puts that to vote he'll get a flamboyant *minority*. Such a crop will be necessarily in 3 lots. Lot 1 will be even pounds—and nobody knocking. Lot 2 will be sections less than a pound (else the crop would not average); but these need make no more trouble than the similar ones we now have. Lot 3—liable to be nearly a third of the whole—will be sections weighing more than a pound. Just for once or twice the bee-man can sneakingly shove the trouble off upon the shoulders of the unsuspecting grocer by packing over-weights and under-weights mixed; but sooner or later the grocer will hit back, and hit back hard. He doesn't make his living by giving away 2 ounces of honey with a section. And to get a customer to pay for 2 ounces more than a pound when he buys a section, is a troublesome and difficult job. Page 8.

HOW TO INSURE HAVING REAPERS.

So to put in heavy combs of honey, reserved for the purpose, 40 days before the honey harvest, is Doolittle's "last and best" way to be sure of his reapers—and that far the most important thing of all. A beginner writes to find out what is the prime thing for the likes of him to know. An excellent and comprehensive answer might be given in one well capitalized word—BEANS? But Mr. Doolittle kindly assumes that he already knows beans, and writes him an excellent article. Page 8.

THE WAYS AND DOINGS OF MICE.

The mouse experiences of our new brother, J. L. Byer, as given on page 53, do not tally very well with my experiments, page 1036 (1906). Yet, perhaps, there is no real clash. Different members of the mouse family differ about as much as different members of the horse family. No one would insist that the horse, the donkey, and the zebra, must have the same tastes as to food. My experiments as yet extend only to one species of mouse, the universal or house mouse—and, in fact, to only one of the three or more varieties of that species. I have long suspected that the beautiful deer-mouse (fawn-colored above and pure white underneath) had an appetite more like the squirrels. Then there are other species of wide range. Also there are *many* species of mice not of wide range, but decidedly local. Every once in a while the zoologists get hold of one never before described. All, doubtless, have some differences of appetite. I want to investigate the deer-mouse—but had better let him alone till I actually finish off the ones I now have. In such a place as Mr. Byer mentions (even if the traps showed some true house-mice present) deer-mice and stub-tails, and rust-tinted fielders are likely to preponderate, and I'll conveniently lay the mischief all to them. I would even hint that a chipmunk may be "in it."

Two of my mice have just been eating quite a hole in the ice of their water font. It froze up less than 48 hours before. Interesting as showing how peremptory they are to have water if they *can* get it—and yet are capable of doing without it altogether. I think the fur of the mouse has the same quality that honey has, the power to absorb moisture rapidly from the air. Then (when there is urgent need) the vessels of the skin turn to, and absorb what is absolutely necessary from the fur. The volume of the fur being large, compared with the volume of such a little body, this is brought thereby within the bounds of possibility.

Conducted by EMMA M. WILSON, Marengo, Ill.

A Kansas Sister's Report

I started in the spring of 1906 with 9 colonies. I increased 4, lost 1, sold 3, and secured 700 pounds of comb honey. So I am going to winter 9 colonies if all goes well. I have not lost my interest in bees or the American Bee Journal, even if I do not write often.

MRS. BEN FERGUSON.

Ft. Dodge, Kans., Jan. 7.

An average yield of 78 pounds per colony, spring count, and comb honey at that, in an unusually poor year, is something well worth while, isn't it? You say, "I increased 4, lost 1." If that one swarm absconded it may be worth while to consider the advisability of having all queens clipped.

Small Closed-End Frame or Bingham Hives

I appreciate the ladies' bee-keeping department remarks and grant their soundness. I have no hives to sell, and am in no way interested in their sale. The little hive used by me mainly meets my hive requirements.

1. It is cheap.

2. No one need ever lift more than 25 pounds at one time in its successful management.

3. Managed for section honey it is the only kind of frame-hive in which all the honey and comb is built inside the frames and sections.

4. It is a box of movable combs, outside of which there is nothing to hinder the easy and quick examination of every frame, or a part of one, without ruffling the bees. It can be opened and closed while the bees are working, and they will not appear to know that anything is happening.

5. Sometimes bees swarm, and if one of these little hives of empty combs weighing about 5 pounds can be held in the palm of the hand, close to the cluster, the swarm can be easily and quickly secured. (One of these little hives will satisfy an ordinary swarm until more room can be given. It is very easy to handle and carry to the place selected.)

6. As the frames, or the hive, handle like a light box, it makes no difference whether the hive is bottom up or otherwise.

7. All the spare combs early in the autumn may be taken from the lower part of the hive—that is, the part where the brood has been altogether—and put in a safe place to keep till spring, leaving only the bees and honey for the winter depository or cellar, which practically increases the capacity of the cellar, as this hive in winter quarters uses only about a cubic foot.

8. The queens occupy all the cells in

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the combs in which they are laying, leaving no room for honey, enabling any combs to be removed in autumn from the hive without finding it half-filled with honey—a very great convenience if you wish to store the empty combs for winter. I had a large crockery tierce in which I wished to winter some bees, and, oh dear! how could a man who had spent a whole life making watches put 4 colonies of bees into it alone? Easily done. Each hive was opened in the middle and the bottom part set in, then the other half was replaced. In this way the 4 fine colonies were put in the tierce and packed for winter. I expect to find them all right in the spring.

The man with unusual spectacles deserves a little notice for his optical illusions. Now, that little step-ladder pile of 8 divisions contained 140 pounds of honey, and the hive cost about $1.00 or less; and one of the divisions was empty, except of brood. It is now in the cellar in a cubic foot of space. The brood-frames referred to above are piled up for next year's use.

Theoretically, more comb honey should be obtained from these little, closed-end-frame hives than from hanging frames, because there are no waste-places in which thoughtless bees inadvertently might store comb and honey, as they sometimes do at the ends of suspended frames.

There are many points in the management of bees in which custom or prejudice unduly figure. There seems to be no real fault in the closed-end movable-comb plan. The lamented Mr. Quinby adopted it on sight. James Heddon, after years of observation in my apiary, and the A. I. Root Co. in the Danzenbaker hive; and last, but not least, the President of the National Bee-Keepers' Association, Mr. Aspinwall, is building or inventing the most extensive and ingenious closed-end-frame, non-swarming bee-hive that I have seen.

I hope the bee-keepers of the world, and especially the lady bee-keepers, may be benefited by every invention.

Do bees winter well in such hives? Yes, they never starve as long as there is a drop of honey in them.

I had 25 nuclei crowded into the small space of a box 12x6½x12 inches each, and containing 387 square inches of comb and some honey, weighing about 15 pounds each when taken to the cellar. After they had been in the cellar a few days I set another just such a hive full of honey on them. One week later I found all of them not having much honey distributed evenly in each part—the honey as well as the combs on which they had previously been, while those having more honey stayed with their honey. I write this to demonstrate that bees do not starve in this hive with honey in it.

T. F. BINGHAM.

Mr. Bingham's presentation of the case is such that if there were to be a special hive for the sisters, his hive would present strong claims for consideration. So Mr. Bingham thinks attention should be given to the unusual spectacles that gave rise to optical illusions regarding "that little step-ladder pile of 8 divisions" on the cover page for Nov. 22, 1906, referring, no doubt, to a paragraph on page 9, where the question is asked, "Would it be the lightest kind of work to lift down that 8th story? and wouldn't it be a rather precarious business to use a ladder to get to the top of the pile?" Now, wherein is the illusion? Is it in estimating the height of the pile? or has it reference to the weight of that 8th story, or what? Pity he didn't give us exact figures as to said height and weight. The only data from which we can judge are the appearance in the picture and the fact the 8 divisions, less one containing comb, contained 140 pounds of honey, and the further fact that each little hive of empty combs weighs about 5 pounds. That makes it pretty safe to estimate at 25 pounds that top story and contents.

Easy so far; the rest of the way isn't so easy. Subject to more or less guessing. Pretty clear case, however, that that 8-story pile isn't as high as it looks. Nothing in the picture to measure by, but the trees, and no telling anything about their size. Why under the sun didn't Mr. Bingham stand smiling beside the pile so we would have something to guess by? Dollars to doughnuts that 9 out of every 10 looking at the picture will think of those little hives as being the size of an 8-frame dovetailed hive. But in that case each story would weigh twice as much as 25 pounds. If each story is only 6 inches high (and there is no telling how much higher or lower it is), then the pile is only 4 feet high. That wouldn't be so very bad.

But next time, Mr. Bingham, please have your picture so that "unusual spectacles" will not be necessary to prevent optical illusions.

Conducted by J. L. BYER, Markham, Ont.

Don't Spray Fruit-Trees While in Bloom

So they are trying to have a Bill passed in Illinois to prevent the spraying of fruit-trees while in bloom. (See page 66.) Really, you Illinois bee-keepers are behind the times. Over here in Ontario we have had a similar law in force so long that I actually forget the year it was enacted. The best thing about the matter is, that the great majority of fruit-growers would not now spray their trees while in bloom, even if there were no law to prohibit them. They have become alive to the fact that by so doing they would injure their own interests; and I wonder after all is said and done, if appealing to the pocket-books of people is not about the most powerful argument that can be brought to bear in order to *convince* them.

Formaldehyde for Fumigating Foul-Broody Combs

David G. West's article on fumigating foul-broody combs with formaldehyde (page 47), contains statements which, to my mind, should not be allowed to pass without comment.

In his first paragraph he speaks of "foul or black" brood, and, if I understood by that that he meant "black" brood, as the term is understood by most bee-keepers, I would not venture to comment on his statements, as I have no experimental knowledge of that disease. But as the term "foul" is used exclusively when speaking of the disease in the rest of the article, I judge Mr. West is speaking of the genuine foul brood as we have it here in Canada, and it is in connection with this assumption that I wish to enter a protest. Mr. West says:

> "To free the combs of the disease, we stack them up 3 or 4 hives high, on a colony that is is slightly diseased—so as not to carry the disease farther—with a queen-excluder on to keep the queen in her own hive, and use the combs that season for extracting combs. This saves the good brood, and makes a strong colony, which will clean the combs of the bad brood and *fill them with honey*" [italics mine]. "The combs are extracted as often as needed, and after the harvest are left to be cleaned out by the bees."

This "cleaning out by the bees" takes place before any attempt is made to disinfect the combs by the formaldehyde treatment which Mr. West claims to be so efficacious. The commonly accepted theory is that the honey is the source of infection, and it seems strange that the disease would not be disseminated by allowing the bees to have access to these wet combs just from the extractor. If this did not spread the disease, I would not think there was much need of disinfecting said combs.

But I mainly wish to protest against the *disgusting* scheme of using those brood-combs, reeking with the filthy remains of dead larvæ, for extracting purposes. With foul brood as it exists here, the *strongest* colony *will not* clean out the dead larvæ dried down on the bottom side of the cells, and it is a common thing for the bees, in affected colonies, to store honey in such cells. I have not the slightest doubt but that

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our best authorities will back me up in this statement.

I wonder if Mr. West, or any one else, would knowingly like to eat honey extracted out of such combs. I like honey, but when I think of eating such stuff, my stomach enters an emphatic protest.

An Englishman, who lived near us once, used to say in his broad way of speaking, that he didn't "mind a bit of clean dirt, but he did detest nastiness;" and I think that honey out of foul combs would quite properly come under the latter qualification.

Mind you, I am speaking of foul brood as we have it here in Ontario, but from what I have read of "black brood," I have my doubts as to the *propriety* of using combs with *that* disease in them, for extracting purposes.

I have had no experience with formaldehyde myself, but Mr. Sibbald, who tested the drug a number of times, pronounced it a failure. That the great majority of inspectors have repudiated its use, is in itself significant; and while I do not dispute Mr. West's claims, yet I would advise Canadian bee-keepers, at least, *under no circumstances*, to try to save foul-broody combs.

Skunks and Bees

Official figures show that skunks annually net this State [Maine] between $125,000 and $150,000—double the revenue from the honey-making industry. Nearly 25,000 gallons of skunk-oil, which is said to have curative properties, are produced annually in Maine. The wholesale price is $5.00 a gallon.—Toronto Globe.

There is an old saying that "comparisons are odious," and I should think that to our bee-keeping friends in Maine, the foregoing *comparison* would be doubly *odious*. As we have no means of disproving the statement, I suppose we will have to accept it *in toto* until better informed.

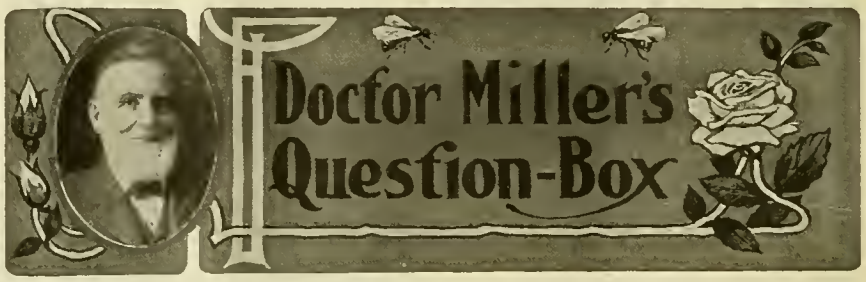
This reminds me that just at present skunks are causing me considerable trouble at my "Cashel" apiary. One or two of the "varmints" visit the yard quite frequently, and eat all the dead bees that accumulate on the ground in front of the hive-entrances. If that were all, there would be no harm done, but there is plenty of evidence that they scratch at the entrances, disturb the bees, and cause them to come out, when they are promptly gobbled up by Mr. Skunk. We have had so little snow that it has been impossible to track them to their den, and I hesitate to set traps on account of a number of the farmers' cats which frequent the yard, and do good service in eradicating the mice.

One strange thing I have noticed regarding skunks, is that they invariably confine their attention to the same hives on their different visits. Last season, for some reason that I could not understand at the time, a colony in the home yard kept dwindling down all through June and July. Two or three times during the busy time I took off the super (with no honey in) to see if the colony had become queenless, or perhaps had swarmed. Every time the old queen was seen, everything seemed normal, with the exception that there were very few old bees as compared with the large amount of brood.

About the end of July I happened to notice the grass all scraped back at the entrance of the hive in question, and I at once suspected skunks. That night I set a trap, and the next morning proved the case without a doubt.

This was the first time I had any experience with these highly-perfumed beauties in the bee-yard, but a neighbor, a few years ago, had over a dozen colonies ruined before he noticed anything wrong, as it was towards fall, and he was busy with the farm work. He also reported that the skunks confined their attentions to the hives all in one row, and never molested the rest of the apiary.

I should think that where skunks are numerous they would be quite a menace to out-yards remote from buildings, which receive only occasional visits.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Moving Bees

As I have to move about 3 miles March 1, when do you think it would be the best time to move my bees? I use the dovetail hive. I have them in boxes with chaff packed around them. Will the bees get ventilation enough from the entrance, or would I better put a screen over the top of the hive in moving them? IOWA.

ANSWER.—It will not do to disturb the winter packing any sooner than necessary, so you would better not move them till bees are flying every few days, possibly well along in April. If you choose a cool day the entrance will probably give ventilation enough, unless it be that it is less than the equivalent of 3 or 4 square inches. Of course, extra-strong colonies may require extra ventilation.

Feeding Bees in Winter

1. Last fall we bought 4 colonies of bees, 2 in box-hives with a glass box on top for honey, and 2 in dovetailed hives with top super for 24 pound sections. Is it too late to examine to find whether they have enough honey to winter, or would it be better to feed and risk their needing it?

2. What should be fed, just granulated sugar, or a syrup of sugar?

3. They are on the stands sheltered on the north and east by a large building extending out to the west 10 or 15 feet on the north side and 2 stories high. Is there any danger of their suffering here through the winter, as we have no severe cold weather?

4. They fly on warm days. Is this right, or should the entrance be closed so they can not fly except when we want them to? These colonies were very heavy when bought, but no honey on top. One was robbed at that time. One had started new combs in the glass box. The other in the box-hive also started comb, and both stored a small amount which we uncapped and they carried out late. We took 20 pounds off one of the dovetailed hives after the season was over.

MISSOURI.

ANSWERS.—1. From what you say in the last part of your letter, it is quite likely that the bees are not in desperate need. It will, however, be a good thing to be on the safe side, so long as you are not entirely certain as to their stores. It doesn't matter a great deal whether you feed without much attention to what they have, or whether you look in the hive and feed only if stores are scarce. It is not too late to do either, so long as the bees are alive.

2. If by "just granulated sugar" you mean dry sugar, that won't do at all. They can't eat dry sugar. This time of year it is better to feed in the form of candy. Stir the sugar slowly into boiling water, having 4 or 5 times as much sugar as water. Keep it stirred, and try it occasionally to see when it is done enough so that a little dropped into cold water becomes brittle; then take it off the fire and stir till it begins to stiffen, and pour into dishes so as to be an inch or so deep. A good plan is to put into the dish a piece of paraffined or oiled paper, or paper oiled with butter, and then, when cold, it will be easily turned out of the dish. Put a cake of the candy over the bees and cover up warm.

3. It ought to be a good place, although it might be better if they were protected from the west rather than from the east winds.

4. It is generally better to let them fly when they want to, although it may be well to set a board as a blind in front of the entrance when there comes a bright sun with soft snow on the ground. But don't think of fastening them in the hive. It will only make them more frantic to get out, and some of them will worry themselves to death.

Getting Workers for the Harvest—Wiring or Splinting Frames—Honey-Dew

1. The honey-flow here lasts till into September, and it seems to me that the common bees I have crowd the brood-nest early in the season and thus diminish the supply of workers for the later flow. What few Italians I've had seem to have the same fault. (The common bees have a little Italian blood). Which race, or races, would you advise me to try that would be apt to do better? Sometimes my bees would starve in the spring during an inclement spell of weather if not fed, although having a 10-frame hive full of honey in the fall, on account of rearing so much brood. They build up strong, and swarm before enough honey is coming in to live on. Would you advise dividing early to keep them down a little, and then uniting later to keep down undesirable increase?

2. I have used 3 vertical wires in some of my frames, the wire being common baling wire, about the size of the splints you use, or maybe a little smaller, and it was suggested to me by what you wrote about your use of

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splints. However, I have a little different object in view than you have. I want the combs stiffened so as to make them stand extracting at a higher speed. Also, I use only starters of foundation in the most of my frames. I want the wires to go into top and bottom bars. Would it work as well that way with foundation?

3. Which do you think would be the cheaper?

4. How is it if your splints touch neither top nor bottom bar, that they keep the sag out of the foundation so well? It looks to me as if the foundation would stretch along the top-bar.

5. My honey is mostly honey-dew. It is gathered from the oak-trees. It oozes out at the juncture of a small excrescence and the twig. The excrescence has a small larva inside. But whether it is a true excrescence formed by the larva, or a blighted and undeveloped acorn, I have not found out yet. My honey has quite a wide reputation for fine flavor, although I have had only one big crop. Some of the honey is too thick to extract. I think it is the first of the honey-dew. All the honey is amber, or light amber. But the flavor is the best I have ever tasted.

California has just had her (about) decennial snow-storm, although in the mountains, where I am, we get a little every year. I guess it is a good thing to be reminded of what we escape.

I enjoy your department more than I used to when younger, and, therefore, wiser!

CALIFORNIA.

ANSWERS.—1. It is doubtful that you would gain your purpose by change of bees. Neither is it advisable to divide early. It's the strong colonies that count. Give them more room, if necessary, by giving another story as an additional brood-chamber, have on hand extra combs of sealed honey to supply any lack of stores, or else feed sugar syrup, and then when harvest-time arrives you can reduce to one story if you like.

2. I don't know for certain just how your plan would work, but if you were going to use wire at all, I think I should use the usual light wire, either fastened the usual way or with nails driven through and the ends bent into hooks.

3. I'm not sure which would cost less, likely the wire; but the cost of either is very little.

4. You will understand that the splints are fastened to the foundation, so there is only ¼ inch at the most at the bottom of the foundation to buckle, and so little as ¼ inch will not buckle, and without buckling at the bottom it can not stretch at the top. At any rate, I never saw any stretching at the top.

5. You will probably find that there is an excrescence or gall that is started in the oak by the insect, and that there is no acorn in the case.

Early Bee-Keeping—Swarming Management—Uncellaring Bees

1. I have received your "Forty Years Among the Bees," and have read it through, and am well on the way in the second reading. You and I commenced bee keeping about the same time. I bought my first colony in the spring of 1861. It was in a basswood gum, and the first honey I got I took the top off and cut it out. The next hives I made were a foot square, and about 8 inches deep, with slats on top, one on top of the other. In 1865 I bought a Langstroth hive with a right to use it. Not liking the 5-pound boxes, I made supers with a division-board in the middle, and put in short frames that I made of plastering lath, and, latterly, the 1-pound sections.

2. In your topic of putting down the queen, you are not very definite. When the colony swarmed you caged the queen and slipped her under the frames on the bottom-board. Then, after taking off the super, you take all the frames and put them into a new hive. Then put 2 frames from some other colony and shake part of the bees from this colony with the frames, and put in 2 or 3 dummies. Put the supers on this, then put the cover on, and the original hive on this. Now, when is the queen liberated? You call this putting the queen down. It would seem below. Then when you put up the queen you must take this queen and put her in the other hive, as this hive you say will be a good place to rear good queens. You probably see my understanding. Please be a little more definite.

3. In putting bees into the cellar and taking them out, I always stop up the hives before moving them. I always supposed a good many of them would come out and get lost. I keep them in a dark room in the cellar. I go in in the morning when it appears like being a day fit, and stop them in. When I get the hives all out I unstop them. I suppose if I could lift the hives up and go in with but little jarring it might do, but I am not strong enough for that. I have two hooks that my daughter and I get under them, and she takes one side and I the other. Sometimes we have to lift them to get our hooks under them, and sometimes we hit the hive against something on the way, and this irritates the bees. This is the second winter I have had a furnace. Before, it was too cold; now it is too warm. Last winter some bees starved to death, and most of the colonies were weak. This year they went in heavier than last. I have 2 holes cut in the stone wall on opposite sides. One the cats go in, and out of the other, not quite so large. I expect the bees to come out in fair condition.

IOWA.

ANSWERS.—1. It is pleasant to have this bit of history from a comrade of the olden time.

2. I am quite chagrined to find an omission on page 164 of the book mentioned, and much obliged to you for calling attention to it. A sentence in the middle of the page reads, "The supers are now put on the hive with its 2 or 3 frames of brood, the cover is put over the supers, and the 'put-up' hive filled with brood is placed over all;" and then should have been added, "and the queen liberated into it." You see this is putting *up* the queen, and not putting her down, as you seem to understand. She is put *down* 10 days after the time the swarm issued. The idea is that the queen can go right on laying in this story above, but although the story is filled with brood, it is weak in bees, and no fielders are bringing anything into it from the outside, so the bees will give up the idea of swarming and will tear down all cells already begun. That's cheaper than for me to go through and destroy cells, and, besides, I might miss some cells, and the bees never miss any. You are right in understanding that the lower hive is a good place in which to rear queens, as it is a strong colony with only a part of its younger bees taken away. And the queen is never put down into this lower story, and only comes down with the upper story when the upper story is put down in place of the lower one.

3 I question the need of fastening the bees in the hives, even with the disturbance you mention. I have disturbed them as much without fastening them in the hives. I count it a very important thing to open windows and doors of the cellar the night before carrying out. If I didn't do that I might want to fasten them in. But the thorough airing out of the cellar all night leaves them so quiet in the hives that they will stand a good bit of jogging before they will come out of the hives. If a hive occasionally gets a tunk that rouses the bees too much, the smoker is always on hand to quiet them, and that's a good deal easier than to fasten all in. When carrying in, of course I wouldn't want to use smoke, but if one gets stirred up it is allowed to sit awhile to quiet down. I have, however, sometimes fastened in a colony, and for this purpose the best thing I know of is a rag wringing wet to throw down at the entrance. When a bee comes against this chilly thing, it seems to think the weather is not favorable for leaving the hive, and it doesn't stir up the colony as it would to fasten them in with a dry cloth. I am not sure whether I fully understand the closing part of your letter, but it sounds as if you thought it would be an improvement to put the sections directly into the super when the foundation is put into them. Well, that is exactly the thing we do, as you will see by turning to page 146 of my book. Just as fast as the foundation is put into each section, the section is set directly in the super where it is to stay, and you are quite right in thinking that such a course is a saving of time over any other way.

Uniting Colonies in Spring—Warped Brood-Frames

On page 74, you say that one can unite a comb full of bees without any precaution whatever with any colony. I have some weak colonies to unite in the spring, and I think I will try distributing combs of bees this way.

1. What time should I do this?

2. Say I wanted to put 2 or 3 combs of bees in one hive, how long apart should I do so?

3. What do you think about brood-frames that are warped out of shape? I have some new ones that are warped very badly; that is, the bottom-bar is away out of line with the top bar. They have never been wet.

MINNESOTA.

ANSWERS.—1. In the case to which you refer, page 74, a queenless colony was to be broken up, and in that case the sooner it is done the better; and, in general, when you intend to give bees, or bees and brood for the sake of strengthening, the earlier the better, only it must not be done until there comes a day when it is so warm that bees are flying freely, for there is danger of chilling the brood by opening hives when it is too cool.

2. It depends a little upon circumstances. Suppose you have a colony that you want to help, and it has bees covering 3 frames. It would probably be safe to give it 3 more frames of bees all at once if the bees were *queenless*. But if you should give it 3 frames of bees from a colony having a laying queen, there might not only be danger of fighting, but the queen might be killed in the colony that is being helped. The safe way would be to give a frame at a time a day or two apart. But you would be safe to give 2 frames at a time if you should take them from 2 different hives. Possibly it might be safe to give it 3 frames from 3 different colonies. In general, it may be said that the stronger a colony is, the more bees can be given it at a time.

3. I think I wouldn't like such frames, and the more out of true they are the less I would like them. The case is worse, too, with loose-hanging frames than with self-spacing ones, for the constant tendency of the latter is to be made straighter by being crowded together. The self-spacers can not be crowded too close together, while crooked loose-hangers may be crowded so close together that the bees glue them fast.

Bees Wintering Well

Bees are all right, and wintering well so far. I set the hives close together and banked them on the north with corn-fodder, and tin on top, with the south side open. The hive-entrances are open 3 inches, with corrugated tin over them. N. B. EWING.

Plano, Ill., Feb. 1.

Season of 1906 All Right

My honey season last year was all right, the average being about 103 pounds to the colony, which is not bad. I have had bad luck for the last 2 years. My bees kept dying, and I haven't found out the cause of it. There was no foul brood. I am sure it was the queen's fault. Some couldn't fly, and others

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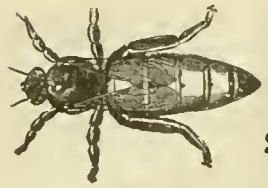

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George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O K, and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1 00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

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never became mated, and those that did lay never made any headway. The stock I have now is certainly doing its duty, and never seems to get the swarming fever. The way I increase is by dividing.

I am taking care of my bees for one of my neighbors. There are 8 colonies of them that stored 600 pounds of the nicest comb honey. I had only one swarm.

I think it did me good to have a set-back in bees, as I look after them more carefully now.
Utica, Ill., Jan. 7. P. H. HARBECK.

Report for 1906—No Complainer

I will try to tell how rich I am, or how large a purse I have, from my crop of honey last season:

To begin with, I had 9 colonies of bees, and increased to 11—not a large increase. I received from nothing to 112 sections, or 112 pounds per colony. The colonies that did not produce anything were in as good condition, or as populous, as those that did give good returns.

I make my own hives, sections, and foundation, and all fixtures that I use, but can not make them as described in the American Bee Journal, page 1015 (1906). I want them a little more accurate than a saw, hatchet and nails would construct.

I sell all my honey t home for 20 cents a section, and have no trouble to dispose of it at that price. I could sell more if I had it.

We have not had a good season for 5 or 6 years, but we take things as they come, and do not complain about it. HENRY BEST.
Hibbetts, Ohio, Dec. 29, 1906.

Waxed Honey Without Granules—Heat Escaping from Cluster

I wish to give a possible explanation (see page 987—1906) and further proof that a high temperature stops honey, when once started to candy or granulate, from candying solid.

About the middle of March, 1906, when overhauling bee-hives, I cut out about 30 pounds of comb honey, leaving another 30 pounds till wanted. The following night we had a frost, or freeze. Yellow jessamine bloomed in 2 or 3 days, and the second lot was cut out previous to one light, and the last, frost in 1906. The first lot candied, and the second lot waxed. The two lots presented, on the evening following the last frost, quite a different appearance. Lot No. 1 candied solid, granules commencing to form on top, and looked precisely the same grayish color, like pure hog-lard in frosty weather. Lot No. 2 remained wax without any granules whatever, and looked white, not water-white nor water-clear, or any other so-called white—the same color as the royal jelly in a queen-cell. Both lots remained in their respective conditions until used up in June. All this comb honey was carried up-stairs between Nov. 15, 1905, and the middle of March, 1906, during warm spells, I suppose, and the *comb* was also built. No comb foundation was used, except a narrow guide was left when the honey was cut out in November, 1905.

In April, I also cut out some comb honey, carried above during winter or early spring. One pint was put into a Mason jar—liquid honey—with but a few small pieces of comb (size of a pin-head) to attract flies which passed through a small hole made in the paper cover, purposely. We had a rather cool spring in 1905, but no frost since that last lot was put up. This liquid honey also waxed. When jarred or tossed, it would hardly run out; the honey made an attempt, almost rubber-like, to contract and retain the same shape it originally had in the jar, but failed. I am also of the opinion, although not certain, that a warm temperature following cool nights was the cause of the last lot waxing. Another frost and this year's second lot would have candied. D. J. PAWLETTA.
Ft. White, Fla., Dec. 24, 1906.

P. S.—The following is some proof that the heat of the cluster of bees does not escape, or

American Bee Journal

very little, if needed in the brood-chamber, as Mr. Doolittle says it does:

Three supers containing the 60 pounds of honey were jerked loose and the honey cut out at once on a *frosty* morning. The comb was brittle. Now, if any heat does escape why was this comb brittle? The colonies certainly were very strong, and occupied the whole brood-chamber (10 frames). Very few bees—probably ½ pint—were above the frames. The last experiment could, it seems, be tried with bait-sections in the North.

D. J. P.

The Pairing System of Non-Swarming

I have read with interest the articles on the Davenport non-swarming plan. Some of them may have hit the mark, and others may have not. There is no doubt that Mr. Davenport has one plan, but with the secretiveness of the average American, he keeps the good thing to himself. In 1895, Mr. Heddon, with his sectional hive, kept all colonies, except a baker's dozen, from swarming. Mr. Aspinwall, last year, had 10 swarms from his 40 colonies in non-swarming hives. According to his theory, probably none would have swarmed if he had removed the pollen-filled combs.

I believe the pairing system, as advocated by one correspondent, is as good as any. I shall use a Langstroth 10-frame hive for the feeding colony, and a sectional hive with supers containing plain 4x5 sections for the one to produce gilt-edged honey. Following the Chapman plan, I can lift the brood-frames every 2 or 3 days to a full super above the honey-board, and thus have an immense colony ready for the harvest.

Our hybrid queens lay in a manner (prior to the honey season) good enough to gladden the big heart of Doolittle; and the bees build early enough and nice enough to satisfy him. Also, one of those early-built queen-cells can be put into a West cage in the sectional hive, and inside of its one sectional brood-case, or queens can be had early from the Sunny South.

There is a popular idea that comb honey can not be produced in northern Michigan in sufficient quantities to pay for producing. That this assertion is not true, I have seen proved in this northern country. Mr. James Heddon, Dr. Miller, or Mr. Aspinwall, could easily disprove this idea by their methods.

I have read the articles by R. C Aikin, in Gleanings, and also Mr. Aspinwall's in the Review, with eager interest. Supers similar to theirs are what the northern Michigan comb-honey producer needs. Mr. Hutchinson and others can embark in extracted honey, but comb honey will suit me. If "W. Z." would tell his many readers to remove across the Straits and locate from St. Ignace to Duluth, all would be benefited. Prices for honey, also eggs, poultry, and strawberries, are higher up there. I have seen a bee-keeper this year produce honey, eggs, and strawberries, and do well with all. Strawberries do best on loamy soil. GEO. J. MOLONEY.

Onaway, Mich., Jan. 1.

Purity of Queens

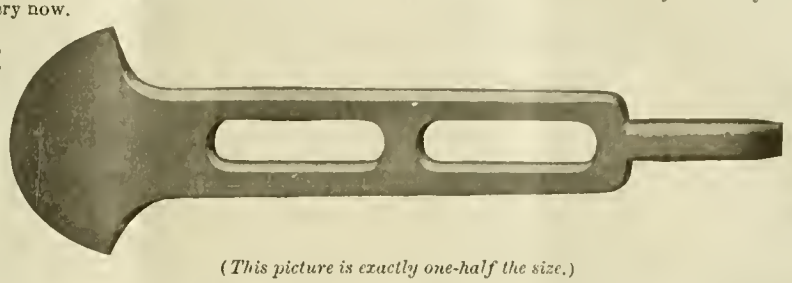
In 1902 I bought a selected tested queen from a Western breeder. This queen's drones were well marked—you could not wish them better—but the workers were miserably marked. They varied from a bright 4-banded worker to 1-banded, dark worker mongrels. By the looks of the queen's drones, she had mated with a drone having black blood. The grandchildren of this queen are black, both drones and workers.

The same year I got 4 queens from an Eastern breeder. They were warranted for 3 years. I had all the queens accepted. Five days afterward, one came out to meet the drone and got lost. She was a virgin. The other 3 were good breeding queens. In 1903 I bought 6 queens from the same breeder. Two died in the cage. One had mated with a black drone. The other 3 were first-class queens. Those queens bred drones in Sep-

Something New=The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



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(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8¾ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅜ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

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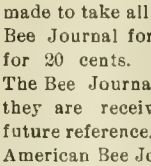

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tember. Just as soon as the workers commenced to gather honey, I observed that one colony acted as if the queen were lost. The next morning I opened the hive. She was on the bottom-board, dead. In one week all the bees were dead. She was a hybrid queen, and was filled with water as large as a drone.

In the fall of 1903, the same dealer sent me a queen. I gave this queen to an 11-frame colony. In the spring of 1904 I took out 2 brood-frames with the queen. The result was, the colony built one queen-cell, and the queen they reared was very good—as good as her mother. I got 5 queens from this queen, and started several batches of queen-cells. The bees would start cells, cap them over, and after 2 days tear them down. This was a puzzle to me. After a few days the hive was filled with drones hatched from worker-cells. So I was "played out" on breeding queens.

In the spring of 1905 I wrote the breeder that I did not want any more dollar queens, but that he was to send a breeding queen. I received 2. The drones from both queens are well marked, but the workers of one queen have black blood. Of the second queen the worker progeny was reared all right. I reared several queens from this queen's eggs, and the drones from those young queens have black blood. The fact is, that the queens from that dealer are reared from a pure mother, as from every queen I have received from him the drones are first-class. But the queens are mated with drones that have black blood, or mongrels. I am well satisfied that those cheap queens advertised are worthless. A breeder offering untested, select untested, tested, and select tested, tells me plainly that his queens are mongrels. If they have a pure queen and drone it is impossible to have those grades of queens to sell.

On page 862 a writer asks, What is a tested Italian queen? A tested, or breeding, queen should be a bright yellow. Every drone must have 4 yellow bands, and you can not discern any varying in color. The workers must have 3 yellow bands, with light gray on 2 bands. The under part of the abdomen should be bright yellow to the tip. Now let us test this queen. If it is free from any black blood, the drones from every young queen reared from her eggs will have the same number of bands as the mother-queen. Every drone is marked alike. No person can see any difference in the drones. You must trace the pure blood from the drone progeny, not the worker progeny. Where the drone progeny varies in its markings it is a sure sign of black blood. If you breed from such queens you will be sure to get mongrel stock. If a breeder sells you a tested queen, that queen's progeny has been tested by rearing young queens from the eggs of this tested queen, and if like produces like, the drones and workers marked the same as the mother-queen, there will be a tested queen. SUBSCRIBER.

New York, Jan. 7.

Winter Too Mild—Bees Fly and Get Chilled

This has been a very mild winter on bees so far, although in some respects it has been just as severe as though we had extreme cold. On some of the first days when it began to warm up some of the colonies lost a pint or more of bees, which came out when it was too cool for them to fly, the wind blowing them down on the leeward side of the hive, where they remained and chilled. They were not old, worthless bees, either, as we scraped up several handfuls, made a small nucleus, took them into the house, and to all appearance they will survive until spring.

Bellevue, Ohio, Jan. 20. H. G. QUIRIN.

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CONVENTION NOTICE.

Minnesota—The Southeastern Minnesota Bee-Keepers' Association will meet in the Court House at Winona, on Tuesday and Wednesday, Feb. 26 and 27, 1907. Everybody is invited. E. C. CORNWELL, Sec.
Winona, Minn.

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & CO.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15. — The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3.20; No. 1 light amber, $3; and good No. 2, at $2.80. White extracted, 8@8½c; light amber, 7¼@8c. Beeswax, 26c for clean yellow, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Jan. 9—The comb honey market at the present is very quiet. Holders are not trying to realize a profit, simply disposing of what they have, at cost. Fancy comb honey is selling at 14½@16c. Extracted amber honey in barrels, 6@7c; fancy light amber in cans, 7@8c; fancy white, 9c. Strictly choice beeswax, 30c, delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 3.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

C. C. CLEMONS & CO.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

TEXAS QUEENS

The Famous Honey-Producers will be ready early in April.

Carniolans, Italians and Goldens

Equal to the best, regardless of price. Prices: Tested, each, $1.00; dozen, $10.00. Untested, each, 50 cts.; dozen, $5 50.

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Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today.

COILED SPRING FENCE CO.
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WE SELL ROOT'S GOODS IN MICHIGAN
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M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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WHITE CLOVER HONEY, both Comb and Extracted.

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IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

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We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

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QUEENS By uniting swarms from 1000 colonies **NUCLEI**

I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1.75.

4A13t R. M. SPENCER, Nordhoff, Calif.

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MASSIE HIVES

We make them. Have you seen them? Have you read our Catalog?

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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year FEBRUARY 21, 1907 Number 8

AMERICAN BEE JOURNAL

Mountain Home and Apiary of Patrick Keating, in Santa Clara Co., Calif.
(See page 153)

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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CHICAGO, ILL.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

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in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

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Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

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the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

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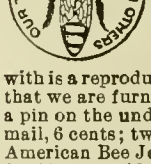
Queen-Button for Bee-Folks



This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL.

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When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

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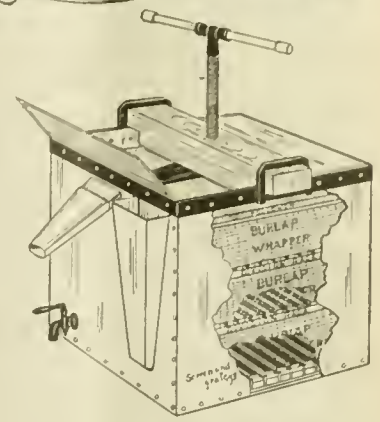
American Bee Journal

H. M. Arnd, Prop.

York Honey and Bee Supply Co.

191-193 E. Superior St., CHICAGO, ILL.,

carries a full line of G. B. Lewis Co.'s Bee-Supplies, which are the finest made, and also the new Hershiser Appliances. Write for 1907 Catalog and Hershiser Folder. **All Roads Lead to Chicago,** which insures prompt shipment and low rates. Early order cash discounts, 2 percent in February, 1 percent in March. **Bees and Queens in Season.** Beeswax wanted—29c cash; 32c trade.



HERSHISER WAX-PRESS.

Sale of Fire Goods

In addition to the full line of new Lewis' Goods and Hershiser Appliances, we still have some of the **Slightly Damaged Goods** left from the fire of last year, which we must sell as quickly as possible to make room for other goods. Those we have sold have given satisfaction, many customers sending a second and third order. One wrote that he "would rather have slightly damaged Lewis goods than **New** of other makes he had tried." What we have has been carefully sorted, and we can offer them at the following reduced prices, Hives and Supers being based on the 5-hive rate:

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HIVES	
1 story 8-fr. Dovetailed or Wisconsin	$ .95
1 " 10-fr. " "	1.00
1 " 10-fr. Improved Langstroth or Acme	.95
1 " 8-fr. Dovetailed with Colorado Cover	1.05
1 " 10-fr. " " "	1.10
1½" 10-fr. Dovetailed or Wisconsin	1.39
1½" 8-fr. Wisconsin	1.27
1½" 8-fr. Champion Chaff Hives	1.64
1½" 10-fr. " " "	1.75
1 " 10-fr. " " "	1.40
SUPERS	
10-fr. Dovetailed and Wisconsin No. 1	.39
10-fr. " No. 3 and No. 4 (new Fences)	.44
8-fr. " No. 4 Supers (new Fences)	.38
8-fr. Wisconsin or Improved Langstroth Supers No. 1	.32
8-fr. " 8-fr. No. 1 and 2 Super, empty	.15
10-fr. Dovetailed No. 3 Super, empty	.16
10-fr. Wisconsin No. 1 and 4 Super, empty	.16
8-fr. " No. 1 and 2 " "	.15
COVERS	
10-fr. Excelsior, Gable, or Higginsville	.25
8-fr. " " "	.23
10-fr. Improved Langstroth or Wisconsin	.25
8-fr. " " "	.23
10-fr. Colorado, with inner cover	.39
8-fr. "	.37
8-fr. Inner Cover for Wisconsin	.08
HIVE-BOTTOMS	
8-fr. Reversible or Danz. Bottom	.15
10-fr. " " "	.17
HIVE-BODIES	
8-fr. Dovetailed or Wisconsin with frames	.56
10-fr. " "	.60
8 and 10 fr. Improved Langstroth with frames 50	.55
8-fr. Dovetailed or Wisconsin empty	.30
10-fr. Wisconsin empty	.32
MISCELLANEOUS	
8 and 10 fr. Bee-Escape Boards	.12
" Hive-Stands	.12
Shallow Extracting-Frames (per 100)	1.50
Slotted Section-Holders (per 100)	1.50
Ideal Section Slats (per 100)	.80
Division-Board, flat, 6c.; nailed	.07

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T-tins and Rabbets, per 100—80c, 90c	$1.00
Flat Tins, per 100—30c	.40
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1 Rauchfuss Combined Press and Foundation Fastener	2.75
1 Hubbard Section-Press, good as new	1.75
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Parker Foundation Fastener	.20
Daisy " " (no lamp)	.55
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Foundation Rollers	.08
8 and 10 fr. Wood-Bound Zinc Excluders.....14	.16
8-fr. Wood and Zinc Excluders	.18
8 and 10 fr. Unbound Zinc 11	.13
Bee-Entrance Guards	.08
Dixie Bee-Brushes	.10
Corneil Smokers, 4 in., $1; 3¼ in., 70c; 2½ in.	.55
Bingham Smokers, 4 in., 90c; 3½ in., 65c; 2½ in., 50c; 2 in.	.40
Clark Smokers	.50
Van Deusen's Wax-Tubes	.12
Hill's Device	.05
Hive Scrapers	.20
Bingham Uncapping-Knives....35c, 45c	.55
1 German Steam Wax-Press	10.00
1 Dadant Uncapping-Can	6.25
Shipping-Cases .....50 percent off	
Feeders—Doolittle, 18c; Simplicity, 6c; Pepper-box, 1 pt.,	.06
German Bee-Book (paper cover)	.15
Nails.....10 percent off	
Veils—Mosquito-bar, 20c; Globe	.75
Thin Surplus Foundation (dirty, not broken) per lb	.45
POULTRY SUPPLIES	
Cornell Incubators, 1906 model.	
64-egg, regular price, $14.....$10 and	8 00
128-egg, " $20.....$15 and	10.00
232-egg, " $29.....$20 and	15.00
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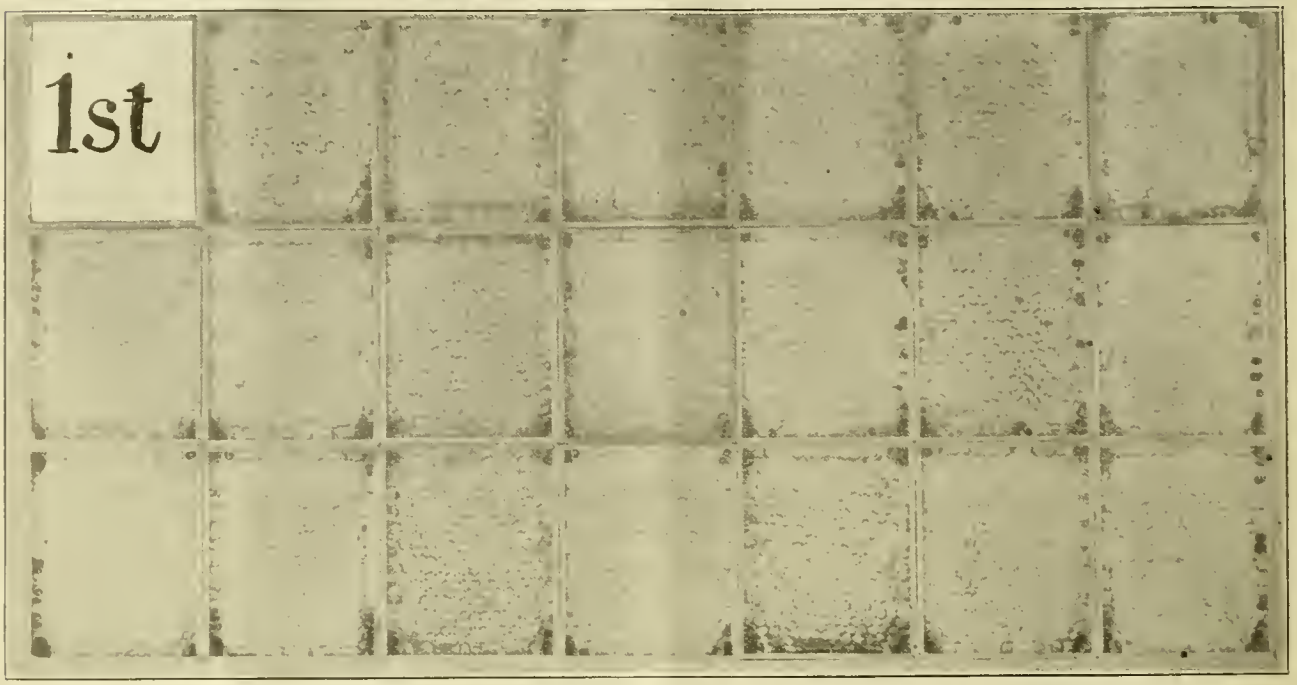
Cornell Lice Paint, 1 qt, 20c; ½ gal., 35c; 1 gal.	.60
Standard Egg Tester or Philadelphia Poultry Marker	.20
Leg Bands, Climax or Eclipse, per 100	.50
Mann's Clover Cutter, Iron Stand, one leg cracked	6.00
Mann's Green Bone Mills, good as new.	
No. 5 B Crank Mill	6.00
No. 7½ Semi Power Mill	12.00
No. 11 Power Mill	20.00

On large orders reductions made in proportion to 10, 20 and 25 hive rate, as given in our Catalog. This list varies with each day's sales, so if you send order for damaged stock, better state how you wish order filled if we are out of what you want; or send cash to cover new goods, as we can then fill order as far as possible from the damaged stock, the rest with new goods, and return any balance due. We will always have full line of New Lewis' Bee-Ware.

HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



More Honey

(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

Write Nearest Branch or Agent for Catalog.

Alabama
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California
*Fresno..... Madary Planing Mill
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Denver.....The L. A. Watkins Mdse. Co.
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* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., FEBRUARY 21, 1907 | Vol. XLVII—No. 8

Breeding a Pure Race of Swiss Bees

The bee-keepers of Switzerland appear to be quite unanimous in asserting that the Italian bees are but little if any better than the common bees found in Switzerland. Starting from these premises, they have been trying to improve the common Swiss bee. It appears that there are now established a number of breeding yards in German Switzerland, where they keep choice colonies for the rearing of drones, and they transport their young queens in nuclei to those yards to have them mated with these choice drones. By careful selection they claim to have some improvements already, and hold that they can make much more progress by continuing this method.

We can see only one drawback to this procedure. The breeding yards, or mating yards, are placed 1¼ miles from the nearest apiary. Bee-keepers who have any knowledge of queen-rearing and mating in this country are aware of the fact that the mismatings in a yard of Italian bees located 1¼ to 2 miles from a yard of the common bees will show about half mismatings, all other circumstances being equal.

The distance which seems to be adopted as sufficient in Switzerland, would be entirely inadequate in this country. Queens and drones certainly fly readily, and in a very short time a distance of 1 or 2 miles. Matings often occur at distances of 4 miles and more.

Some Early Honey-Dealing

Dr. F. D. Clum, of Cheviot, N. Y., sends us the following about one of the earliest large dealers in honey in this country:

The largest and most extensive dealer in honey in the United States in the years 1870 to 1875 was Daniel W. Quinby, a commission merchant of New York City. He was a venerable looking, gray-bearded man, and was known throughout the city commission district as "Uncle Dan." He controlled the honey market in those days, as all the bee-keepers of the time regularly forwarded their honey to him for sale on commission. This, probably, was due to the fact that he was a near relative of the well-known Moses Quinby, one of our pioneer bee-keepers who died in New York State, May 27, 1875.

Thousands of dollars worth of honey was sold in the fall of each year by Mr. Q., and yet none of it was extracted. The public looked upon extracted honey with great suspicion, and do so to-day for that matter. It is hard to convince the consumer that extracted honey, as found in the market, is the strictly pure unadulterated product of the bees. I remember the first can of extracted honey Mr. Q. tried to sell a prospective buyer, who, at the end of a long talk, critically looked at the honey, smelled of it, and tasted it, and then drawled out: "Well, it looks all right, and smells all right, and tastes all right, but I would rather have it in the comb, for then *I would know it to be all right.*"

It is the same lack of confidence that prevents the bee-keepers of to-day from greatly increasing their incomes, for every experienced apiarist knows that it costs less to produce extracted honey than it does to produce comb honey. Our best bees—the Italians—reluctantly begin work in the pound sections; they prefer to work upon large combs, and when we consider that these large-sized combs, after the extraction of honey, can be refilled by the bees over and over again, the saving is apparent.

Nearly every one who eats honey prefers the extracted when convinced of its absolute purity. Even the children at the table take a spoon and dip from the plate the liquid honey which has run from the comb in preference to eating the comb. It is to the mutual interest of the producer and consumer that extracted honey be universally used instead of comb honey, for when the public becomes convinced of the absolute purity of extracted honey, the producer's income not only will be greatly increased, but the public will receive an article that they really like better, that contains more food value, and at a saving in cost. F. D. Clum, M. D.

There is no doubt that a larger amount of extracted honey is produced to-day than of comb honey. And we believe, as does Dr. Clum, that when the general public discover how good really well-ripened extracted honey is, they will use it in preference to comb honey. *But it must be well-ripened.* Probably no other single thing has interfered with a wider use of extracted honey than that of putting *un*ripened honey on the market. It not only injures the producer who is so foolish as to do it, but all producers of the best extracted honey are compelled to suffer from its evil effects.

Even for baking and other manufacturing purposes, the unripened extracted honey is a detriment. Mr. R. A. Burnett, the oldest and largest wholesale honey-dealer in Chicago, told us only recently that years ago he used to sell car-loads of buckwheat extracted honey to bakers and tobacconists, but all at once certain Eastern bee-keepers began to "get smart," and thought they could produce so much more by extracting it before ripe. The result was that such honey ruined the bakery goods in which it was used; also caused tobacconists loss, so that they would have no more buckwheat extracted honey—wouldn't risk buying it even if assured that it was well-ripened. The lighter grades of honey were considered too expensive for manufacturing purposes, so that some sweet other than honey was sought and used, thus cutting out a large demand for honey. And all because some short-sighted bee-keepers thought they could fool the buyers. Well, they succeeded to such an extent that not only were the dealers and large buyers fooled, but thousands of honey-producers as well.

It might be a good thing if the National Association would take up this subject, and see what it can do toward putting a stop to the offering of unripe honey on the market.

Honey-Butter Ruled Out by Pure Food Law

The following has been received at this office from one of our subscribers in Oklahoma:

I have shut down my factory which has been running for several years for putting up all kinds of pickles, chow-chow, pumpkins,

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etc., and making honey-butter on a large scale. My goods were all pure, and were highly flavored with extracted honey. I used 19,000 to 20,000 pounds of extracted honey a year. I always bought the most of my honey every fall from other bee-keepers, for the honey I bought from them was pure, only a little dark. The people are very much disappointed here because they can not buy any more honey-butter. They say they like it better than pure honey. I always sold honey-butter for 25 cents a pound. The Hepburn Pure Food Law is a little too strict. I think the law will break up many honest men in business, if I understand it. OKLAHOMA.

Whether the pure food law is to be commended or condemned because "Oklahoma" has "gone out of business" is a question worth considering. It is said that in some places in Europe, about an ounce of honey is added to each pound of butter, and that this addition makes the butter more acceptable to most tastes. If the "honey-butter" in question were a compound of this character, and sold for just what it was, there certainly was nothing wrong in the transaction, and it is hard to see how the pure food law would interfere with it. At the most, it could only insist that the label should be an honest one, and if some other name than "honey-butter" would more accurately describe the product, objection ought not to be made to such change.

At this distance it may not be entirely safe to pass judgment, but there may be no harm in saying just how the matter looks judged from the information given. The statement is that people like "honey-butter" "better than pure honey." That is as much as to say it is not pure honey, and the only thing the law probably does in the case is to make the product sell for just what it is. One would think that "Oklahoma" would hardly need to go out of business on that account, and even if he gave up that one item of his business, pickles, chow-chow, etc., ought still to support the business. That he should go out of business because of being obliged to sell "honey-butter" for what it is, suggests the possibility that instead of any honey or butter being in the case, there may be something like the "honey-butter" of Germany with which bee-keepers in that land have been contending, consisting chiefly of sugar. If that is the case, it will be rather severe on "Oklahoma" to give up selling a cheap mixture for 25 cents a pound, but it certainly will be no great loss to bee-keepers, since he has not been using in his business, pickles and all, more honey than he could obtain from a single bee-keeper.

A law that obliges labels to tell the truth ought not to hurt any legitimate business.

The National Association's Annual Report of the San Antonio convention has been out for several weeks. It is a neat pamphlet of 128 pages and cover. It contains a verbatim report of the San Antonio meeting, a list of the members of the National, the General Manager's Financial Report, an account of cases that have come before him during the past year; also a list of bee-keepers' associations in United States and Canada, besides a copy of the Constitution of the National Association. Every member receives a free copy of the Report, but any one who is not a member can get a copy of it by sending 25 cents to General Manager N. E. France, of Platteville, Wis., with the understanding that if he joins the National Association before the end of 1907, the 25 cents paid for this Annual Report will be allowed to apply on his dues, which are $1.00 a year.

To Missouri Bee-Keepers.—The following comes from Mr. R. A. Holekamp, of the Missouri Bee-Keepers' Association:

DEAR SIR AND BROTHER BEE-KEEPER:—I have just returned from Jefferson City, where I was called to appear before the House Committee on Agriculture to speak for the Bee-Keepers' Bill. The committee gave me a hearing, and recommended the Bill for passage by the House; it will be voted upon at an early day, and I hope it may pass.

All members who have not yet written to their Representatives, I urge to write a lette *now*, asking them to vote for the Bee-Keepers Bill No. 503.

Our Bill was passed by the Senate last Wednesday, and when the Bill has passed the House it will be "up to" the Governor for signature.

I now request all Missouri bee-keepers to write without delay to Joseph W. Folk, Governor of the State, at Jefferson City, asking him to sign the Bee-Keepers' Bill, being Senate Bill No. 145, and House Bill No. 503.

The Governor was sick when I was in Jefferson City, and therefore I could not see him, but I will have to go there again in a few days to appear before the Appropriations Committee, and I will then call on the Governor, and will try to convince him that we need the law.

Bee-keepers! our Bill is of such great importance to success in our vocation that I hope every one of our members will write the letters, and will also have other bee-keepers and fruit-growers in his neighborhood sign their names to the letters, so we may bring as much pressure on the Governor as possible.

Fraternally,
ROBT. A. HOLEKAMP,
Sec. Missouri State Bee-Keepers' Association.
4263 Virginia Ave., St. Louis, Mo.

Illinois Bee-Keepers' Bills—3 of them—have been introduced into the Legislature now in session at Springfield, and every one of them should be passed. We hope that all of our Illinois readers will write at once to both their Representatives and Senators, requesting that the 3 Bills be supported by them when they come up for discussion in committees or for the passage on the open floor. The Bills are as follows:

BILL FOR APPROPRIATION FOR ILLINOIS BEE-KEEPERS.

A Bill for an Act making an appropriation for the Illinois State Bee-Keepers' Association.

WHEREAS, The members of the Illinois State Bee-Keepers' Association have for years given much time and labor without compensation in the endeavor to promote the interests of the bee-keepers of the State; and

WHEREAS, The importance of the industry to the farmers and fruit-growers of the State warrants the expenditure of a reasonable sum for the holding of annual meetings, the publication of reports and papers containing practical information concerning bee-keeping, therefore to sustain the same and enable this organization to defray the expenses of annual meetings, published reports, suppressing foul brood among bees in the State, and promote the industry in Illinois:

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That there be and is hereby appropriated for the use of the Illinois State Bee-Keepers' Association the sum of one thousand dollars ($1000) per annum for the years 1907 and 1908, for the purpose of advancing the growth and developing the interests of the bee-keepers of Illinois, said sum to be expended under the direction of the Illinois State Bee-Keepers' Association, for the purpose of paying the expenses of holding annual meetings, publishing the proceedings of said meetings, suppressing foul brood among bees in Illinois, etc.

Provided, however, That no officer or officers of the Illinois State Bee-Keepers' Association shall be entitled to receive any money compensation whatever, for any services rendered for the same out of this fund.

SEC. 2.—That on the order of the President, countersigned by the Secretary of the Illinois State Bee-Keepers' Association, and approved by the Governor, the Auditor of Public Accounts shall draw his warrant on the Treasurer of the State of Illinois in favor of the Treasurer of the Illinois State Bee-Keepers' Association for the sum herein appropriated.

SEC. 3.—It shall be the duty of the Treasurer of the Illinois State Bee-Keepers' Association to pay out of said appropriation on itemized and receipted vouchers, such sums as may be authorized by vote of said organization on the order of the President, countersigned by the Secretary, and make annual report to the Governor of all such expenditures, as provided by law.

STATE INSPECTOR OF APIARIES BILL.

A Bill for an Act providing for the appointment of a State Inspector of Apiaries, and prescribing his powers and duties.

WHEREAS, The disease known as foul brood exists to a very considerable extent in various portions of this State, which, if left to itself, will soon exterminate the honey-bees; and,

WHEREAS, The work done by an individual bee-keeper or by a State Inspector is useless so long as the official is not given authority to inspect, and if need be destroy, the disease when found; and,

WHEREAS, There is a great loss to the bee-keepers and fruit-growers of the State each year by the devastating ravages of foul brood:

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the Governor, by and with the advice and consent of the Senate, shall appoint a State Inspector of Apiaries, who shall hold his office for the term of two years and until his successor is appointed and qualified.

SEC. 2.—Said Inspector shall, when notified of the existence of the disease known as foul brood among apiaries, examine all such as are so reported and all others in the same locality and ascertain whether or not such disease exists, and if satisfied of its existence, shall give the owner or the person who has the care of

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such apiaries full instructions as to the manner of treating them. In case the owner of a diseased apiary shall refuse to treat his bees or allow them to be treated as directed by the said Inspector, then the said Inspector may burn all the colonies and all the comb necessary to prevent the spread of the disease: *Provided*, Said Inspector shall, before burning, give one day's notice to the owner or other person who has the care of the colonies of bees and comb, that in his judgment should be burned.

SEC. 3.—The Inspector shall, on or before the second Monday in December in each calendar year, make a report to the Governor, and also to the Illinois State Bee-Keepers' Association, stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed, and of the expenses incurred in the performance of his duty.

SEC. 4.—Any owner of a diseased apiary or appliances taken therefrom, who shall sell, barter, or give away any such apiary or appliance, or bees from such apiary, expose other bees to the danger of contracting such disease, or refuse to allow the Inspector of Apiaries to inspect such apiary or appliances, shall be fined not less than fifty dollars ($50) nor more than one hundred dollars ($100).

ANTI-SPRAYING BILL.

A Bill for an Act to prevent the spraying of fruit-bloom.

WHEREAS, The mutual interests of the Fruit-Growers and the Bee-Keepers of the State make it imperative that fruit-bloom be first fertilized and then protected by spraying, from the injury of insects that prey upon and destroy the fruit; and,

WHEREAS, The fruit-bloom is largely fertilized by the bees, which should not be poisoned by misunderstood and misapplied use of tree-spraying; and,

WHEREAS, Fruit-trees should be sprayed when the fruit is forming, and not till after the bloom has been fertilized by the bees and otherwise; and,

WHEREAS, There is much danger to the health of the consumer of honey made from the nectar of blossoms poisoned by the compounds:

SECTION. 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That it shall be unlawful for any person to spray fruit-blooms with any poisonous compound which may endanger the life of those who eat of the honey produced therefrom.

SEC. 2.—Any person violating the provisions of this Act shall be deemed guilty of a misdemeanor, and shall be fined not less than ten dollars ($10) and not more than fifty dollars ($50) for each offense, and it is hereby made the duty of the State's Attorney of the several counties of this State to enforce this Act and prosecute all cases brought under this Act.

The first Bill above was referred to the Committee on Appropriations, composed of the following Senators:

Gardner, McKenzie, Hughes, Lundberg, Galpin, Baker, Landee, Lish, Evans. Barr, Hurburgh, Curtis, Juul, Hay, Pemberton, Campbell, Hull, Burton, Cunningham.

The second and third Bills were referred to the Committee on Agriculture and Horticulture, composed of the following Senators:

Dunlap, Hughes, Putnam, Houser, McCormick, McShane, Burton, Jandus.

We do not know the names of the House Committees.

Indiana Convention.—The bee-keepers of Indiana met and organized a State Bee-Keepers' Association last week. There was a fair attendance, and much time was taken in the discussion of a Foul Brood Inspection law. A Bill was drafted and put in the hands of a Legislative committee. It is desired that all Indiana bee-keepers write *at once* to their Representatives and Senators, asking them to support the same.

It is necessary to know something of the headway made up to the present of this dread disease. I would invite correspondence from all over the State as to your locality—a postal card from *you*, if possible—in regard to the following items:

1st. Has foul brood appeared in your county or neighborhood?

2d. If so, how long has it been there, and to what extent has it injured the bee-industry?

To do the amount of good contemplated by this organization, it is very desirable to enroll a large membership. The fees are $1.00 per year, and include membership in the National Association. So you see that you get the advantage of both for the price of one. We need finances to carry out the lines of work contemplated, and we would appreciate your help in this matter. Send $1.00 to the Secretary, or to any of the officers most convenient, and your name will be enrolled on the books of the State and National Associations. But the answers on the postal cards should be sent to the President, as they are to be used in making up a plan for fighting foul brood.

GEO. W. WILLIAMS, *Pres*, Redkey.
C. M. SCOTT, *Vice-Pres.*, Indianapolis.
JAY SMITH, *Sec.*, Vincennes, Ind.
WALTER S. POUDER, *Treas.*, Indianapolis.

Laws on Spraying During Fruit-Bloom

BY C. P. DADANT.

Since the publication of the proposed law concerning spraying fruit-bloom with poisonous compounds, I have received several communications from different sources upon this matter. The criticism is kindly, but it is nevertheless a criticism. The objectors acknowledge that it is not advisable to spray fruit-bloom, but ask how they can help it, if they wish to make sure of spraying all their fruit-trees in time for the destruction of the codling-moth, which is the principal insect injurious to fruits. Allow me, therefore, to call attention to the conditions either for or against the law. We all want to do the right thing, and when people are agreed upon that, it ought not to be very difficult to come to some sort of understanding, satisfactory to all.

That the spraying of fruit-bloom during full bloom may work great injury to the bees does not admit of a doubt. Instances are on record which show that entire apiaries may be depopulated by the wholesale poisoning of the nectar in the flowers at a time when the bees work upon this nectar in great numbers.

A still more important possibility, though more remote, is that of the poisoning of the nectar that is stored in the combs, if enough bees can manage to reach the hive with their load, after they have gathered juice which has been poisoned by spraying with arsenical or other poisonous preparations. The effect of arsenic is not usually so sudden that it will render the insect unable to reach its home. The nectar is not digested by the bee in any quantity, but is carried in the honey-sac and really remains intact, for the slight mixing with the saliva of the bee can hardly affect it, and there is none digested except the slight part of it which passes beyond the honey-sac into the digesting stomach proper. It will thus be seen that there is great probability of some poisonous honey being stored where it might cause the death of persons eating of it. So much for the apiarist's side of this question.

Now as to the possibility of avoiding the damage. We are all horticulturists as well as bee-keepers, and I dare say the apiarists are very scarce who cannot own to the possession of a few dozen apple-trees or peach-trees, at least. Many of our extensive bee-keepers are large orchardists, and they will tell you that it is quite possible to begin spraying just before fruit-bloom if it is thought best, and continue until quite a few of the buds are open, also during bloom at times when the weather is cloudy or too cool for the bees to fly; and that it is also possible to spray the different varieties in turn, as the bloom opens, since there is a difference between one variety and another in the time of blooming. Thus spraying, if necessary, may be carried on almost uninterruptedly from the time when the first trees begin to shed petals. After the bulk of the bloom has fallen the danger almost entirely disappears, and the occasional death of a bee is nothing to the wholesale slaughter occasioned by injudicious spraying during the height of the blossoming of the fruit-trees—apple and peach, principally.

Concerning the advisability of spraying during bloom, regardless of the interests of apiculture and of the public health through honey consumption, there are strong points against it. The falling of the spray within the corolla of the blossom will often cause the dilution of the pollen by the poison. This pollen is thus rendered inactive, owing to the strength of the mixture, and the fruit which it is proposed to protect is prevented from forming. If the spray comes from above, it falls on the corolla and the fruit is sheltered against it, although it is the very skin of the forming fruit which it is desirable to reach, and that alone. Should the

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poison gather within the corolla and flow to the fruit, it will only touch the center of it, and if it is not yet fertilized, it may be entirely blighted by the very thing which is intended to protect it. Not so, if the bloom is over. The fruit is then fertile, and is exposed to the spray, whether it comes from above, from below, or from the side.

To sum up, if it is thought best to spray early, a portion of it may be done before the opening of the blossoms, with a steady continuation after the bloom is about over. But the most important point is the continuation of spraying, over and over, during the first few weeks after the fruit is formed. One of the largest fruit shippers in the country told me that from his observations, the most successful and most perfect crops of apples were secured when spraying was continued two, three and even as many as five times over, *after the forming of the fruit.*

The proposed law on spraying will work no hardship on the judicious fruit-grower. It is only intended to protect the apiary against the careless and inconsiderate spraying of trees during full bloom.

Hamilton, Ill.

Putting Bees Out of the Cellar

BY G. M. DOOLITTLE.

I am keeping bees mainly for the profit there is in them, therefore from a matter-of-fact standpoint, for I am sure that one week of practical experience is worth years of theorizing. Believing this to be so, I propose to take the reader right into my apiary, as it were, and show him just how I take the bees from the cellar. It is a little easier to have a man to help you put the bees out, but I often do this alone by the aid of a spring wheelbarrow, and it can be done with a wheelbarrow without springs. However, I think it pays well to procure one with springs for apiary work, as we wish it hundreds of times during the year, and the springs help very materially, not only in putting the bees into and out of the cellar, but in all wheeling of comb honey, or combs at all times when it is cold enough so they are brittle.

But we are to speak more particularly in this article about putting the bees from the cellar, and doing it alone, therefore we commence by lighting the bee-smoker and taking that and the wheelbarrow to the cellar door. Now if we have one or two old horse-blankets, or something of that sort (old bed-quilts are still better), to fold and spread on the wheelbarrow, we will have something that will take off all jar, so that the bees will not even know they are being carried about. With a spring wheelbarrow thus fixed I wheel hives full and running over with bees, right in July and August, no matter how hot it is, and they offer no resistance, unless I do such a bungling job in loading them, that they are aware of being handled before they are safely on the wheelbarrow.

Having the spring wheelbarrow "padded" and at the cellar door, together with the smoker, I go in and carefully take the first hive next to the door and carry it to the wheelbarrow, setting it thereon. The next thing is to shut the cellar-door quickly, so the bees remaining therein will not be awakened from their winter nap. The door being shut, the entrance to the hive is closed by puting a wet cotton-cloth over it, tucking the same closely about it so that no bee can get out, should they become disturbed from any reason so they were inclined to do so. Bees that get out of their hive at this stage of the proceedings are the worst to sting of any time of the year, seemingly, because they are suddenly awakened from their long winter nap.

Then there is another reason why none should get out here at the cellar-door, for such bees as do get out before the hive is placed on the stand which it is to occupy, are lost, as they mark their location where they leave their hive, and hang about the cellar-door trying to sting me every time I come after a hive, till they finally die from cold, starvation or exhaustion.

I now turn back one corner of the cloth a little, just enough so that a few puffs of smoke can be blown in, when the hive is wheeled to where it is to stand during the season, and a bottom-board placed for it. If your hives have bottom-boards nailed to them, of course this clean bottom-board will not be used; but I prefer a loose bottom-board, so that a clean one can be given every colony when it is put out, believing this far better than to allow the filth collected during the winter to remain, or the raking of this filth out with a bent wire, as some recommend.

Having the bottom-board in place, proceed to pull the crate-staples, or whatever kept the bottom-board attached to the hive for carrying to and from the cellar, thus having the hive ready to be lifted to the new stand. But before doing this, blow in a few more puffs of smoke to send the bees up among their combs so that they will be slow in coming out for their first spring flight, thus avoiding the "mixing of bees" many have where no precaution is taken.

The hive is now placed on the clean bottom-board and the entrance regulated to suit the size of the colony, giving 4 inches in length to the strongest colonies, and one inch to the weakest.

I next clean the bottom-board the colony had during the winter and place it "summer up" on the next stand for the next colony to occupy, as soon as it is brought from the cellar, which is the next thing to do, doing the work in the same manner we did with the first one. And in this way the work is done till all are out.

But when shall this putting out be done? is a question often asked. Some tell us to put bees out as early as a good warm day presents itself after the first of March. Others say wait till warm weather comes, so as to hang on for a little while, and till the bees can profitably secure something from the fields; but I prefer to take a "happy medium" between the two, and so wait till the colony or two, which I generally leave out during the winter as "test colonies," begin to secure pollen quite freely, which is usually done upon the blossoming of the soft maple and red or "slippery" elms.

After years of experience, I find that when the bees are put out earlier than this, we have so many cold spells that the bees dwindle, or in other words, more bees die from cold, and through going out in search of water or sweets in unpropitious weather, than are replaced by emerging brood; and if left in too late, the colony becomes so weak through too many bees becoming restless from desire to get out, this causing them to die from exhausted vitality; and thus there are not enough energetic bees left in the colony, after their first flight, to build up rapidly in time for the harvest of honey from white clover. But when put out on the blossoming of the elm and soft maple, a colony of fair strength seems able to cause 5 to 10 young bees to emerge during the next 30 to 40 days, to take the place of each old bee there was in the hive when it was put from the cellar, and thus the colony becomes prosperous to the highest degree just in time to take advantage of the blooming of the white clover.

Just try this plan of putting out, doing it at the time suggested, and see if you do not find it better than anything you have done before, unless you have practiced what is here given in other years.

Borodino, N. Y.

Invention of the Honey-Extractor

BY F. GREINER.

There is perhaps many a bee-keeper who makes use of the honey-extractor although he may know little, if anything, about the man who invented it. That the name "Hruschka" may not be forgotten, and to show how a most insignificant "happenstance" may sometimes be the beginning of revolutionizing a whole industry, I write the following lines:

Major von Hruschka was an officer in the Austrian army at Legano, Italy. He was born in 1813 in the Austrian province, Moravia; after the war with Prussia, he left the army, lived for a time in Dolo, and finally in Venice, where he died at the age of 75 years, in 1888. During his leisure hours the Major devoted his time to the care of the honey-bee. This afforded him great pleasure.

One day when at work with the bees, he handed a plate of comb honey to his boy to take to the house. The plate was in a small, covered basket, and as the boy started from the apiary the bees were after him. To ward them off he whirled the basket around his head as he was running. When he reached the house, it was found that a large part of the honey was out of the comb and on the plate. The unsealed portion from the underside had

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been forced out. The Major, anxious about the boy, followed him, and when he noticed the honey on the plate, and the condition it was in, he marveled.

After some study he concluded that the centrifugal force was the cause of the occurrence, and at once constructed a honey-extractor, which he exhibited in 1865 at a bee-keepers' meeting held in Bruenn, Sept. 12 to 14, by the German-Austrian bee-keepers. Great was the enthusiasm over the invention.

As soon as it was noised about that honey could be separated from the comb by centrifugal force, a good many honey-extractors were thrown upon the market with but slight changes and improvements over Hruschka's first machine. Like many other inventors and benefactors, the Major did not reap the reward which was his due. He died a poor man.—Translated from the Leipz. Bztg.

Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

The annual convention of the bee-keepers' associations of Brant and adjoining counties was held in Brantford, Ont., on Jan. 29, 30, and 31, 1907.

The meeting was called to order by Pres. Shaver, of the Brant County Association, who asked Mr. O. L. Hershiser to take the chair. Mr. Hershiser, after thanking the members for the honor conferred upon him, invited Mr. Holtermann to open the discussion on the subject for the evening, namely: "Hints for present use in wintering; either in repositories or outdoors."

Hints on Wintering Bees.

Mr. Holtermann said there were more signs of dysentery among their bees in the cellar than ever experienced before. He attributed it to quality of some honey gathered by the bees on Long Point. Some of this honey showed air-cells under the cappings; it was gathered from a species of mint, had a decided minty flavor, and was of a greenish color.

Mr. Holtermann had a sample of this honey at the convention, and all who tasted it agreed that it was the most peculiar tasting honey they had ever sampled. Several bee-keepers said it reminded them of some samples of foreign honey they had tasted. Mr. Holtermann had been feeding some sugar syrup about a week before, to the 20-odd colonies affected, and thought there was a decided change for the better.

Mr. Hershiser thought that feeding a colony affected with dysentery with thick sugar syrup would benefit every time. Recently during a warm day, some bees fed on sugar syrup did not offer to fly, while those not so fed flew freely.

Mr. House—Outside conditions often have much to do with the matter, but in Mr. Holtermann's case the troube is undoubtedly being caused by an acid of some nature in the honey.

Mr. Taylor said a neighbor of his had fed sugar syrup all winter to his bees in a damp cellar, and they had wintered perfectly.

Mr. Smith thought that candy made of sugar and honey was a splendid winter food for bees, notwithstanding reports to the contrary. In his opinion, there had been something radically wrong in making the candy.

Mr. Chrysler—Two years ago my bees gathered a large quantity of honey from "spurges." When first gathered, it made any one sick who would taste it; later it lost some of its objectionable features. The bees filled their hives solid, and the winter loss was quite heavy.

Mr. Armstrong—Are you sure, Mr. Holtermann, that the bees had been covering these combs of honey in which the air-cells were noticed?

Mr. Holtermann—Yes.

Mr. Coggshall thought possibly pollen in the honey was responsible for dysentery, but Mr. Hershiser thought not.

Mr. Smith said formerly he thought pollen caused dysentery, and for some years he extracted all honey from the brood-nest and fed sugar syrup. He had discontinued the practise as he thought results did not pay for the extra work.

Mr. Holtermann — Confining bees closely in the summer will bring on dysentery.

Mr. Hershiser—When putting bees into the cellar last fall, I found one colony so badly affected with dysentery that I had no hopes for them, but they appear to be better now.

Mr. Smith—Probably unsealed stores caused the trouble. Now they are on sealed stores and it disappears.

Mr. Craig—Will thin syrup ferment in the combs as quickly as poor honey?

Mr. Holtermann—Yes.

Mr. Craig and Mr. Armstrong said they had had sugar syrup left in vessels all winter and it did not ferment.

J. L. Byer—It is all a question as to how thick the syrup is.

Cellar-Wintering of Bees.

"What is the first requisite in cellar-wintering, temperature or ventilation?"

Mr. Chrysler—Temperature.

Mr. House—Temperature before ventilation.

Mr. Hershiser—Captain Hetherington's first cellar had sub-earth ventilation, but later he discarded these arrangements and much better results were obtained.

Mr. House said his father used to lower the temperature in his cellar by sub-earth ventilation. The cellar was moist, with water on the bottom, but upward ventilation relieved that.

A Member—Too quickly lowering the temperature is apt to disturb the bees.

Mr. Holtermann—Go into a cellar, three or four at a time, and the temperature will rise.

Mr. Hershiser.—My bees are next the furnace, and they don't mind my coming in continually; door is open mostly with temperature 32 to 44 degrees. Last year as high as 72.

Mr. Byer—What about outside bees affected with dysentery?

Mr. Coggshall—Nothing but a flight will help them.

Mr. Byer reported having half a dozen strong colonies quite badly affected, and as Mr. Hershiser and others thought sugar syrup would help them, Mr. Byer was asked to experiment and report results.

A Member—What is the cause of a few colonies getting dysentery, while the rest are wintering perfectly?

No one could give a positive answer to the question, but some thought bees differed in constitutional matters, the same as animals.

Mr. Adams thought the unusual amount of dysentery was caused by the damp season. He was using a gas flame to counteract the dampness of the cellar.

Mr. Laing asked Mr. Holtermann how often he found it necessary to use a stove in his cellar.

Mr. Holtermann—It all depends upon the conditions of the cellar.

Mr. Byer—Are Italians more apt to take dysentery than other races of bees?

Mr. Hershiser—Some strains of bees are more liable than others, but not necessarily Italians.

Mr. Byer said that he had noticed in his yards, that Italians were more subject to the disease than were Carniolans.

Snow Around Hives.

"Is it desirable to allow snow to remain around hives?"

Mr. Smith would not object to snow, but would not want the entrances to get clogged. He recommended a small hole in the hive-front, half-way up, as a safety-valve. Mr. Hershiser endorsed this view.

Mr. Holtermann—The Michigan convention was unanimous in agreeing that it was not necessary to remove snow from hive-entrances. The heat of the bees would melt away the snow.

Mr. Chrysler used a hive with a portico, the entrance of the hive open full width. The portico has a door with a contracted entrance.

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Mr. Byer said it depended a great deal upon the time of the year that snow fell. If a heavy fall came late in the spring on strong colonies, disaster was apt to follow.

Some years ago D. W. Heise had a number of strong colonies smother before the snow could be taken away. This was early in April.

Mr. Smith—Snow is apt to make strong colonies too warm, and cause too much early breeding.

BROOD IN HIVES IN WINTER.

"Is it detrimental to have much brood in the hive at this time of the year?"

Mr. Smith would not want so much brood so early.

Mr. Byer thought that bees outside had brood earlier in the winter than was generally thought. He had helped to destroy some colonies slightly affected with foul brood about the middle of January, and every colony had quite a quantity of brood in all stages.

Mr. Hershiser asked Mr. Holtermann his experience with cellar-wintered bees when first put out.

Mr. Holtermann stated that usually he found but little brood, and the less there was, he thought, the better.

Mr. Coggshall—Mr. Elthorp of my State, lowers the temperature of his cellar by throwing cold water on the floor, and this discourages brood-rearing.

Mr. Smith one spring had his bees with brood in every colony, and they never did better. In common with other speakers, he, too, would sacrifice ventilation rather than temperature.

Mr. Burke—Last year I wintered bees without ventilation successfully, and this year, by ventilating like Mr. Holtermann, was in hopes my bees would increase. [Laughter.]

(Continued next week.)

Conducted by J. L. BYER, Markham, Ont.

Wax-Rendering Methods

In Jan. 1st and Jan. 15th issues of Gleanings, Mr. H. H. Root gives results of some experiments in wax-rendering, and the *conclusions* he reaches makes me feel like saying, "I told you so," as they are nothing more nor less than a triumph for the Hatch-Gemmill wax-press.

Some time ago Mr. F. Greiner expressed himself as follows in the American Bee Journal:

"I can make but about 3 runs with the German steam wax-extractor, and the amount of wax at the end of the day will be about 15 pounds. It is a mussy job, and I would gladly give any man half, or more, of the wax that he might be able to boil, squeeze, extract, or get in any way out of the stuff, provided I had nothing to do about it."

From what experience I have had with steam wax-presses, I judge that Mr. Greiner accomplished about an average day's work, and for a long time I have wondered how bee-keepers could have the patience to bother with such a machine, when for a much less cost they could have a press of ten times as much value as far as actual results are concerned.

Mr. Root concludes that he can render, with the Hatch-Gemmill press, from 7 to 10 pounds of wax per hour, and this includes remelting the slumgum and giving it the second pressing. He claims that with but one melting the slumgum, after pressing, will contain from 8 to 12 percent of wax, but after the second treatment only from 1 to 3 percent of wax will be left in the refuse. The amount left after the second melting was determined by continued pressing and shaking up of the slumgum for 2 hours in the German steam-press.

I have melted up a great many combs and pressed out quite a few hundred pounds of wax with the Hatch-Gemmill press, but have never given the slumgum the second pressing. I did, though, last winter, take the refuse from which 82 pounds of wax had been pressed, and run it through the steam-press by way of experiment (*experience*, rather), securing in the operation 1½ pounds of a poor quality of wax. Needless to say I decided that it was necessary to have some better machine to secure the wax (if wax there was) from slumgum, from the Hatch-Gemmill press.

As to amount of combs that can be handled, I will give the following as an example, but by no means as a record, as any one else could do as well:

About 140 old combs were all broken up small, and brought by the stove. In a little over 3 hours from the time melting operations were started, we (Mrs. Byer and myself) had 71 pounds of wax, which was ready for the market, simply by scraping off the bottoms of the cakes. A Toronto dealer bought the wax, and I think he would vouch for the statement that it was of good, average quality. For some reason, wax from the steam-presses is never of as good a quality as that obtained by other means.

I might add that the slumgum from the Hatch-Gemmill press has been saved for the past 2 years, and I am looking forward with interest to having the privilege of testing the same in the Hershiser press. If spared, to make the test I will, at my earliest opportunity, give the readers of the American Bee Journal the result.

Moving Bees in Winter

In a letter received some time in December, Mr. Whiteside, of Little Britain, says: "I was moving bees yesterday, to-day, and will be to-morrow." Formerly, I was much opposed to moving bees in the winter, and if any one asked my advice in the matter, I always urged them not to undertake such a thing, as it would almost certainly mean the death of the bees. You see, I was going by what the other fellows told me. However, while at the Victoria County convention, 4 years ago, this question came up, and Mr. Whiteside and some others were inclined to laugh at me for the advice I gave a gentleman who was contemplating moving some bees 14 miles on the sleigh in December. Contrary to my advice, the bees were moved and wintered first-class, out-doors, in an extremely hard winter.

The following season, owing to the farmer on whose land some of my bees were, selling his farm and buying another only a short distance away, it became necessary for me to move the bees something less than half a mile. Moving bees such a short distance in the summer season, is always attended with the danger of losing a lot of the field-force, by the bees going back to their old location; so in view of my Victoria county friend's experience, I decided to move them as soon as there was enough snow for sleighing. The bees were packed in chaff, 2 hives in a case, and sufficient snow being on the ground on Dec. 10, teams were secured and sufficient men, and in half a day the 60 colonies were moved without a mishap. Hive-entrances were closed with pieces of wire-cloth, and it was well that we did so, as the bees rushed to the entrance when disturbed, as if it were a summer's day, instead of the thermometer being within a few degrees of zero.

After being placed on their new location, the screens were not removed till near night, as the bees were around the entrances, and numbers would have rushed out and perished in the snow.

As there were some 30 colonies at this place, that had been moved there the previous spring, here was a good test to see if moving in the winter was detrimental or not. Although none of these bees had a flight previous to the latter end of March, yet they wintered in excellent condition, and, as far as I could see, there was no difference in the two lots of bees.

Whether it would be safe to move bees *late* in the winter, I will not venture an opinion. However, as far as I am concerned, personally, I would hesitate to move bees January or February if they had no flight since say Nov. 1. Yet I have no evidence to prove that bad results would follow, and there is a possibility that it might

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prove all right, even as it did *unexpectedly* with me, when I moved my bees in December.

Bee-Keeping for Farm Boys and Girls

Once more the Christmas bells have rung, and again the happy New Year is given to the contented and happy people of Canada. This is the time of year for municipal elections, conventions, and of annual meetings of the different societies of the land, and it is well that the people (farmers included) should take stock of how they are prospering in their calling. The farmers of Ontario have one very great advantage over those of the West, in that they can carry on so many different branches of farming.

Now, Mr. Editor, I propose another line of husbandry which I would recommend, especially to the young men and women, and that is bee-keeping. I see no reason why the farmers' sons and daughters of Ontario could not keep a few hives of bees. I do not know of any greater luxury on the farm than plenty of honey. There are very few people who do not like a dish of honey, but I believe a great many people think it is impossible to keep bees without getting stung. I have kept a few colonies for the last 25 years, and there is no more danger in opening a hive of bees than in leading a young horse to water, when you understand them. In the first place, there is no insect that the temperature of the weather affects so much, and then it is so very easy to protect yourself that the danger of being stung is nothing.

My outfit consists of a veil fastened to an old hat, covering neck and face, then a pair of harvest gloves and a smoker filled with rotten wood and a coal, and I am ready for business. Of course, the most of the work with bees is done in warm weather in summer.

I do not recommend any one to rush in heavily until he becomes acquainted with them. I trust these few ideas will set some of our young farmers to trying a colony in the spring, and they will find both pleasure and profit in bees.—A FARMER, in Farmer's Advocate.

The foregoing is a sensible suggestion and worthy of the consideration of a good many farmers. True, all farmers will not make bee-keepers, but a few bees on many farms would not only be a source of income, but also an attraction to growing boys and girls, if they are properly instructed. Many farmers follow the practise of giving calves, lambs, etc., to their growing boys, and allow them to manage the same as a source of income for the boys' own use. Why not give the boy a colony of bees for the same purpose?

Methinks, if more of the farmers would follow this or similar plans, a great many more boys than is now the case would be content to stay on the farm.

Conducted by EMMA M. WILSON, Marengo, Ill.

Growing Sweet Clover

I have just returned from the annual meeting of the Nebraska State Bee-Keepers' Association at Lincoln, where we had an interesting meeting, with a larger attendance than usual.

Of course, sweet clover was up for discussion, and the point was brought out that it was sometimes difficult to get a stand when seed was sown in spring. It was also shown that sometimes when it did not come up soon after sowing the seed remained dormant until the following spring, and then made a good stand. Now, my experience has been that the seed that falls and stays out all winter germinates much more quickly and evenly than seed that has been gathered and housed until spring.

I have found, too, that it is slow work getting sweet clover if one sows seed in great weed-patches. Sweet clover will run out other weeds if it gets a fair start amongst them, but, like alfalfa, the plant is fine, and rather delicate at the start.

I get sweet clover to grow in weed-patches, but I don't do it with seed, but with *transplanted roots*. Get them out as early as you can, and they come strong and vigorous, ready to cope with anything, and hardly seeming to know that they have been moved.

I have done considerable transplanting, as well as scattering seed by the roadside, and with excellent results; and, as I told the bee-keepers at our annual meeting, I have not heard any grumbling *from the neighbors*, although it did come to my ears that a certain agent had remarked on the thicket of "weeds" along the road "so a fellow could hardly get through." If I had only bought a sewing machine from him he would have managed to get through, and without grumbling!

(MRS.) A. L. AMOS.

Comstock, Nebr., Jan. 19.

Cleaning Sections of Honey

DEAR MISS WILSON:—I was much interested in your report in the American Bee Journal for Dec. 27, on the question of cleaning sections for the market. I must confess that Dr. Miller's statement amazed me at the time; it was so far beyond anything I have ever done myself. On the other hand, to do only 4 cases a day seems extreme in the other direction. That would be 2 hours to a case.

I have never sat a whole day at one time cleaning sections, but I have often timed myself in cleaning cases, and I think my average was about half-an-hour to unpack and clean each case of 28 sections. Like you, I find it much easier to clean sections in cold weather, but, then, all the fine honey I could put on the market in July brought me $2.75 to $3.00 a case; in October I got only $2.40. So I had to put extra labor against extra price.

I do not exactly know what a T-super is, but when I read of Dr. Miller and other bee-keepers sitting and standing on their supers, I was glad I used the ordinary section-holders with wood separators.

When I take my supers off the hives I clean roughly with a hive-scraper out-of-doors, and then bring them into the honey-house. There I unpack and handle each section separately, putting it into an empty case as I finish with it.

This year I had girls working for me for a few days. When I unpacked they scraped a super in about 20 minutes each, but when left to unpack and scrape themselves, they did 12 to 14 cases a day, each working 8 hours a day. I did all the grading and packing myself. I do not think it would be possible to do all the work as you do in the bulk. There is a great deal of propolis here. I took a lump from a hive one day and weighed it for curiosity. It weighed an ounce.

Just at present I can not call myself a bee-keeper, for my brother has sold his ranch here and I have sold my bees, and intend going to California next week. However, I am too much interested in bees to do without them for very long, though this may be the last time I shall sign myself—

January 9, 1907. "COLORADO."

That's just the trouble, if you did know what the T-super is, and how to use it, you would not be so well satisfied with the section-holder, I think. I have used both, and *much* prefer the T-super.

Don't let the matter of emptying the T frighten you. It is only an extreme case when you have to sit or stand upon it, and even then it is not so very difficult, as sitting or standing upon them is not very hard work. I am sure you could empty supers very much more rapidly with the T than with the section-holder. You will readily see that they are not so very difficult to handle when I tell you that I have emptied hundreds, yes, thousands of them.

The matter of cleaning sections alone, if there were no other advantages—and I think there *are many*—would decide me in favor of the T. I think I could never be satisfied to use a holder that necessitated the handling of sections singly. I do not know just how bad propolis is with you, but we have the reputation of being in a very gluey region.

So you are going to California to live. I almost envy you. I hope that you will not be long beeless, and that the change will not lessen your interest in the sisters' corner. I trust we may still hear from you often.

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Conducted by Louis H. Scholl, New Braunsfels, Tex.

The Care of Bees in February

For the progressive Southern bee-keeper October and February are two of the most important months of the year, for in the first-named all efforts are made to prepare the bees for the winter with plenty of stores, so that the colonies may come up in good shape for harvest time the next season.

In the early spring, as soon as the weather permits, he is anxious to make a thorough examination of his bees and ascertain whether they have "pulled through" all right; and tries to put them all in such condition as will bring them up to the best possible shape for the honey-flow later; that is, he manages his colonies so as to have them strong in bees just at the right time to take advantage of the flow. To attain his purpose, upon which the whole art of bee-keeping depends in producing good crops of honey, he must give his attention to several items:

First, the main examination of all colonies as soon as warm weather in early spring allows it, which generally begins here in February—sometimes even in January in mild winters, and March when the winters have been severe, although this happens very seldom.

The colonies are examined—1st, for their supply of stores; 2d, for their strength of the colonies; 3d, for "queen-rightness" or queenlessness; and 4th, as to the condition of the brood-combs. Of each of these points notes are made in the note-book.

Colonies short of stores would best be fed on full combs of honey, and it is essential to have these at least partly uncapped. By giving such full combs in the spring it will be found how advantageous it is to keep in reserve a stock of them at the time of the honey harvest for use the next season. I do this by leaving a number of *shallow extracting supers* on strong colonies the year around. Whenever a "short" colony is found one of these supers with honey is simply set on top of it—an easy job. In making such exchanges of combs from one colony to another, it is *very important* to know for certain that there are no dangers of scattering foul brood or other bee-diseases. Without the combs of honey, sugar syrup should be fed as previously given.

It is an easy matter to ascertain the the strength of the colonies. If the cluster does not spread over the space of at least 4 or 5 combs, it should be marked as "weak," and should be united with another colony. Such uniting should be practised without hesitancy; even though the number of colonies is reduced, more attention should be paid toward having stronger colonies.

"Queen-right" are all the colonies having brood in their combs. If queenless, they should be united if the colonies are weak, while good, strong colonies should be given a "laying" queen from reserve nuclei kept for that purpose. If no queens can be had at this time of the year, uniting with another colony should be done, as it is, in most of our seasons, too early to rear *good* queens for such colonies.

The condition of the combs is of great importance for the progress of the colonies. Only nice, clean, straight combs should be tolerated. Crooked combs, or such as are not straight in the frames, and bulge out on one side, allowing a hollow surface on the other, are detrimental to brood-rearing. In many cases the cells of such combs are not, and can not be, used for brood, especially where there are no cells on the bulged-out side of a comb. All such combs should be removed and replaced with frames filled with foundation in full sheets.

Drone-comb should be cut out. It is only necessary for a colony to have drone-comb of a total space about as large as a man's hand, because it is better for the colony, as they must have some of it. This should be scattered throughout the hive, hence small "batches" can be left in the lower corners of the brood-combs.

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

New Comb Honey in Cellar.

At the Ontario convention they assigned to U. H. Bowen, of Niagara Falls, the part that belongs to the lion among beasts (and bee-keepers), to-wit, the production of comb honey. Was he equal to the job? Yes. But what did he say that might make the rest of us sit up and woggle our ears? Put your newly harvested sections down cellar (!!)—and keep more or less fire there every day as long as the honey stays there. (Ah, possibly that might do.) Page 12.

Few Unfinished Sections.

I take off my hat to F. W. Hall. He produced 5313 sections and had only 18 unfinished. Consider myself "some" in getting my sections finished up; but I don't seem to be in the same class with Mr. H. Page 17.

Pure Food Law and Its Effect.

I, for one, feel a little afraid of the effect of so much triumpe! triumpe! triumpe! over the Pure Food Law. Make us all think that purity and goodness are sure to come without any effort on our part. Make the rogues all laugh in their sleeves, and set some new sails in the full assurance that nobody will go after them just now. I speak feelingly—squealingly, in fact. I'm an invalid and health-food crank. Before the much-praised law came into force, there was one place in Toledo where I could (and did) get abundance of excellent and pure peanut butter. Since the law came in force I sent (not went) to the same place for 2 pounds more. I received the product of a different firm, and stuff which I can't eat. Adulterated I'm quite sure; and probably more or less of the adulteration is grease, which I hold greatly in abomination. Page 25.

Bees and Poetry.

Can't you let a fellow have any poetic license at all? Yes, we can, and lots of it. But when a poet undertakes to write about bees we *are* a little inclined to hold his Pegasus clear down to the actual facts. Will the poet, on page 27, take notice that bees don't die (except by violence) with pollen on their legs? Furthermore, live ones seldom have pollen when working on clover—and when they do it's not golden but dark-colored. Apart from too much license the verses are nice, and the lesson good.

Parthenogenesis and Other Ways of Reproduction.

Many, many thanks to Prof. Cook for setting us right about the claim that other men did more to discover parthenogenesis than did Dzierzon. The other men saw with the microscope what they were told they would

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see; but, surely, the man who was able to tell them what they would see was the real discoverer. Hard for people to realize how great that discovery was. Moreover, if I mistake not, it opened the door for other great discoveries. It is now known that there are at least four kinds of reproduction: Sexual reproduction, Parthenogenesis, Gemmation, and Fission. In Gemmation something analogous to a *bud* (gemma) forms somewhere on the organism. It grows and develops, and finally separates as a new creature. In Fission the original organism gradually divides into two organisms just alike, or nearly so. Joseph Cook, a distinguished preacher of Boston, once made a stir by claiming that the birth of Christ was a Parthenogenesis. Then he allowed himself to be frightened out of his claim, I believe. In my small field I would renew the claim. The birth of Christ was a Parthenogenesis. The birth of Eve was a Gemmation. Page 27.

REPRODUCTION BY FISSION.

And here is another tremendous thought which has just been trying to get abroad in the world. In Fission neither one is parent, and neither one is child. Of the individuals produced by Fission, many die from various causes, but none (it is claimed) die of old age. Life is a continually subdivided stream, but it is the same stream. *Here is practical immortality, not in any heaven, but visible to man's eyes and right here upon the earth.* Why not an institute be endowed to study Fission with a hundred microscopes till the secret is discovered why the cells of creatures that reproduce by Fission do not grow old? And when they get that secret can they not make at least longevity out of it for human beings?

But, alas, the whole thing will probably turn out to be a mare's nest (biggest one on record), although it is not pleasant to say it. More likely it will transpire that the facts have been overstated—observers observed well, but not long enough. It will be found (I can tell 'em) that after a certain large number of divisions there will be a rest, and something analogous to a spore formation. If not so, then some other way. Life will spit on its hands, and take a new and rejuvenated start, much as it does under other forms of reproduction. Page 27.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Pacific Coast Murmurings

A Visit to the Home of Patrick Keating, Apiarist

I spent a week with a bachelor bee-keeper just after the middle of October, in the Santa Cruz Mountains, California. The place is about as lonely as one would wish to find, though, to tell the truth, there was lots of life not more than a mile away, at the mines.

It was to the little ranch of Patrick Keating up on the Alamedas above Hacienda, Santa Clara Co., that I hied myself. Near by, up on the hills, are the shafts and tunnels of the New Almaden quicksilver mines, for a long time the richest in the world. Of late years, the mines have not been yielding so largely—in fact, there is a belief that they are "petering" out. Yet there is a chance of richer ore than ever being discovered. The hills around were honey-combed for the heavy metal—the prospector's tunnels are to be found everywhere about the hills. This year prospectors are out in every direction trying to "strike" lime and cement quarries. Some have already been found. The possessor of a cement quarry has something that pays better than a gold mine, though, perhaps, not so fascinating. The demand for cement in San Francisco is something enormous and there are millions in it.

My friend invited me to see him. I went expecting to stay but 4 days, but so pleasant and entertaining were my days made by "mine host" that a week's length was reached before I left for home. I will hereafter call my friend by the name that he is known by for a score of miles around. So I shall just say "Pat," though his neighbors know him as "Pat, the Bee-Man." No matter where you go, every one knows "Pat," and he is looked upon as the philosopher of the mountain fastness and of the valley below. He took me in his buggy behind his fine horse, "Teddy," (so named, I suppose, because he likes to take the bit between his teeth, like a distinguished ruler by the same name, and run things to suit himself), and I could see that not only the old settlers but the school-children looked up to Pat as something of a wonder. It may be because he could subdue the bees, and it may be because of his learning and the quaint way he had of discussing the subject he was dealing with.

Pat was a bee-keeper before he came to America where he soon foreswore allegiance to his former sovereign, Queen Victoria. He was reared on a small farm in Tipperary County, Ireland. He says that bees did not do well on the "old sod," owing to the dampness of the weather. He tried keeping bees in Southern California. He found that the yield was phenomenal some years, but there were too many dry, or off years. While his present location is not the best in the world, still he likes the place because there is plenty of water the year around, even in the driest of dry years. He finds that it is not the dry years in Northern California that fail of honey, but the cool ones, like the past year, which was noted for its abundant rains.

A finer stream of pure, limpid water I never saw than was the Alamedas, which flows right through Mr. Keating's place, and there was such an abundance of it. I walked some 3 miles up the bank of the main stream to near its source to get a better idea of the flora up the canyon. There was an everlasting tangle of plants on both sides, and clean up to the top of the mountain. And there was so much of those *mountains,* you could easily understand that there was no level land within sight. It seemed a shame that so much waste land could be everywhere about. There were no timber-trees in this canyon. One has to get nearer the coast to strike the timber belt. But nearer the coast the honey-plants are not so good, so there is where the law of compensation comes in, I suppose.

Pat lives a quiet life, free from strife and worry, amid the hum of his bees and the babbling of the saucy brook below his cottage door. Companionship he has, in a measure, in his self-willed Teddy; the brindle cow; his dogs, Spink and Stock; a few black cats; and a fine flock of chickens. Almost as a hermit of old, Pat lives with his pets, and, for aught I know to the contrary, he may call them his "brothers," as did that austere poet of old, St. Francis, of Assisi. But how many of us could "batch" it far from the haunts of men, even with such "brothers" and "sisters" about us as the dogs and the cats, and the cow and the horse, and several million of bees thrown in? But the life is a healthy one, and with the work to be done the day passes rapidly enough.

In the evening my friend meanders down the creek to his nearest neighbor for his mail. Here he spends some little time talking with the stockman (for this neighbor is a cattle-raiser) and his good wife. Whether Pat's way is wended nightly to his neighbor's, around many a tortuous bend in the creek, just to get his mail, which is delivered there, may be questioned somewhat when it is remembered that there is a comely young lady dwelling there with her parents. This suspicion has to be set aside for the trick is an old one and something would have come of it ere this. Yet who knows what may happen?

My friend Pat's ways as a bee-keeper may be more interesting to my readers than his life as a citizen. My excuse for this character-sketch is just to show what life out in the hills on a California bee-ranch is like. Other features of such life will appear in succeeding sketches.

With this appears a view of Pat's apiary and honey-house, with himself shown "forninst" the middle foreground. This is from a photo by a San Jose professional. The other view was taken by myself during my recent visit. It gives a pretty fair idea of the bee-ranch and the surrounding hills. The place is rather picturesque, aside from its proprietor.

W. A. PRYAL.

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Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Best Hive Paraphernalia to Start With

1. What hive-body should I use—an 8 frame or a 10?

2. What should the supers be fitted with—T-tins or section-holders? slatted or plain separators? bee-way or no bee-way sections?

3. What make of hive should I start out with? MICHIGAN.

ANSWERS.—1. For extracted honey 10 frames, every time. For sections, maybe 8, maybe 10. Unless you expect to pay the closest attention to your bees, there is too much danger of starvation with so small a brood-chamber as 8 frames, but with fullest attention and the right kind of management you may sometimes do a little better with the smaller hive for comb honey. So long as the frames are the same, it is not a very hard matter to change from one size of hive, so it might not be a bad plan to try each.

2. After trying different ones, I have settled down on T-supers, plain wood separators, and 4¼ bee-way sections. Of course, you many not agree with me. I'm only saying what I think is best for me.

3. You will hardly go astray to take the hive most in use by men who keep bees for the money that can be gotten out of the business, and more of them seem agreed upon the dovetailed hive than upon any other kind.

Information on Cellar-Wintering

□1. A year ago last fall I built a bee-cellar in a side hill, 10x12 feet, with a 2-foot stone wall. It is covered with dirt all around except the front. I have a bee-shop on top. For bottom ventilation I have a 2-inch gas-pipe running from the bottom out 40 feet, 2 feet in the ground. For top ventilation I have a trap-door 18 inches square, which I go in and out. Is the ventilation all right? I wintered my bees there last winter, and they came out in poor condition, with the combs all molded. I went in last week, and the bees were all right except one colony. They seem to be quite noisy for this winter. The cellar seems to be quite damp, but no mold around the hives. My thermometer registers from 38 to 40 degrees. When I put the bees into the cellar I put inch blocks under each front corner on the bottom-board, and quarter-inch blocks under the cover for top ventilation. Is that all right?

2. On looking over my bees I found big drops of water gathered under the covers. What is the cause of it?

3. I keep potatoes in the same cellar. Would that cause any dampness to the cellar?

4. If I put a cement bottom in the cellar would it improve it?

5. I go in about every 2 weeks through the trap door. It doesn't seem to disturb the bees. Is there any harm in going in so often? NEW YORK.

ANSWERS.—1. With dampness and mold there is certainly something wrong. If your thermometer is at all correct, the temperature of 38 to 40 degrees is too low, especially where there is dampness. □It would be a good thing to raise the temperature in some way. Good banking might accomplish it. Coarse manure would do. A big lot of snow is good while it lasts. The ventilation of the hives would be all right in a dry cellar; but as it is there would be advantage in giving more ventilation at the top or bottom, or both. The cellar might have more ventilation, too; but in that case there might possibly be danger of lowering temperature too much.

2. The drops of water on the cover is the moisture from the bees, and settles there because of coldness and lack of ventilation.

3. There is probably some additional dampness from the potatoes; the harm depending upon the amount of potatoes.

4. I don't believe it would help much, if any, to have a cement bottom.

5. Your going in and out is not likely to do any harm unless you cool off the cellar by it.

Bits of Cell-Cappings on the Bottom-Board

I have noticed on the alighting-boards of 2 or 3 of my colonies a substance resembling sawdust. What is this? I winter my bees outside in small sheds packed with straw. The sheds face the south. IOWA.

ANSWER.—That brings vividly to mind the first year I wintered bees, when I was alarmed to find under the bees and at the entrance something that looked like a mixture of coffee-grounds and sawdust, and I didn't know but what it was "all up" with my bees. An old bee-keeper quieted my fears by telling me it was nothing worse than the bits of the cappings that the bees dropped when unsealing the honey. Your bees have the same "disease."

Control of Increase in a Back-Yard Apiary

Having 5 colonies in a small city back-yard, without room to work in pairs, or have any more colonies, running for extracted honey in 3 colonies and comb honey in 2, with the main honey-flow from the last of May to the middle of July—what is the best way to control increase? Of course, time is no object in the case. I keep bees only as an avocation. WASHINGTON CITY.

ANSWER.—You haven't asked me about it, and maybe it's none of my business; but I'd really like to know what you mean by "without room to work in pairs." As a rule, working in pairs is the very thing to give one room, and the only way I can think of to have more room with hives not in pairs, is to have the whole 5 standing as close together as possible. But that would give you such poor chance to get at the hives to handle them, that if you're working with bees for the fun of it, I shouldn't think you'd stand it. At least, I don't believe I'd stand it. I'd rather give away one of the colonies, and then there would surely be room for the 2 pairs. There's another way out. I suppose that back-yard isn't roofed over, and you have the right to build up your bees as high as you like, so long as they don't interfere with the moon. Well, if I wanted more bees, and didn't see any way to manage it, I'd pile one hive up on top of another. That's nothing unusual in Germany, and if you want you can have a pile of 4 colonies.

As to the best way to prevent increase, I—well, really I don't know. One way is to double up in spring, so as to start with only 2 or 3 colonies, and then increase to 5 or so. I wonder, though, if you don't mean to prevent swarming. That's a harder one, but you can have a whole lot of fun trying to head off the bees from swarming, and they can have a lot of fun beating you. With the ones run for extracted honey there ought not to be much trouble. With 2 stories for the queen to range in, room for surplus given as fast as needed, and ventilation given at bottom and top of each story (see page 191 of "Forty Years Among the Bees"), you ought not to worry about swarming. With the comb-honey colonies, if you will allow each colony to be queenless for about 10 days at the beginning of the clover harvest, and then furnish it a queen that has been laying only a few days, there ought to be no swarming. Or, what is practically the same thing, remove the old queen just before swarming-time, as near as you can guess, and 8 or 10 days later destroy all queen-cells but one, and the bees will do the rest. Instead of that, it might be just a little better not to destroy any cells till you can hear the free young queen piping in the evening, and then, or next morning, destroy *all* cells.

Now, I've taken some liberties with your question, and if they're not to your taste, come back and I'll fix up another prescription for you.

Feeding Bees in Tenement Hives

I have my bees in Orton tenement hives, 6 colonies to the hive, all in very good shape when put in. One of them is all stirred up from some cause. There is 8 inches of snow now, and the bees make as much noise as in July, both night and day, and will try to fly out in the cold if you go near the the entrance of the hive. All the other colonies are quiet. Can it be that they are short of food? Should I feed them sugar syrup? KENTUCKY.

ANSWER.—It is not certain what makes the bees so uneasy. They may be short of feed and they may not. The right thing is to open up the hive on a mild day and see whether there is plenty of honey present. It is possible, however, that the hive can not be opened without seriously disturbing all the colonies. In that case it will be the safe thing to thrust some candy into the entrance.

Foretelling a White Clover Yield—Alternation of Good and Poor Seasons—Ratio Between Amounts of Comb and Extracted Honey

1. Do you know of any means of making a reliable guess, during the winter, as to the probable yield from white clover for the next season? If you can tell anything at all about it, I would like to hear how you do it. □

2. Have you ever noticed a tendency towards alternation of good and poor seasons? I began keeping bees in 1897; and beginning with that year, the odd years have all been above the average, and the even years all below it, though 1898 was only a trifle below. I have been wondering if it just happened that way, or if alternation were the usual thing?

3. What is your guess as to the ratio between comb and extracted honey? Can you produce more than half as much comb as extracted, from the same bees, on the average? ILLINOIS.

ANSWERS.—1. I don't know a thing about it more than any farmer who has never kept bees. If there is no stand of clover, of course there will be no crop. If there is a good stand, it may be killed out by freezing when

American Bee Journal

the ground is bare of snow, and if it is thus killed I know there will be no yield. But if there is a good stand in spring, I don't know whether there will be any crop or not. I can't tell anything about it till the clover begins to bloom. Even then I can't be sure. If the bees begin to store from it, then I know it will yield—and the probability is that it will continue to yield; but it may come to a sudden pause. If it doesn't yield as soon as in full bloom, the probability is that it will not yield at all.

2. No, I have never noticed any sort of sequence in the matter.

3. I think the general opinion is that 50 percent more extracted than comb can be obtained. Perhaps that isn't far ont of the way. Of course, there may be a difference in localities, in seasons and in management. One way to tell something about it is to compare prices of comb and extracted. If you'll wait a minute I'll do some figuring in that line.... Well, I took the prices in the American Bee Journal for Jan. 24, as that happened to be nearest at hand, and if we are to go at all by comparing prices, that 50 percent is altogether too low. For, taking highest prices for comb and highest prices for extracted in each of the 8 markets quoted on page 79, and making the yield depend upon these prices, there would be, on the whole average, 94 percent more extracted than comb, varying from 77 to 125 percent, according to the market. Something, of course, should be sliced from those figures on account of the greater cost of supplies for comb honey, but it would hardly seem that it would bring it down to 50 percent. But, as before intimated, circumstances will make a great difference, for you know in some cases you can get at least a small yield of extracted when you can't get any comb at all, and each man must decide the matter for his own locality and conditions.

Reports and Experiences

Fine Winter So Far

We have had a fine winter so far. My bees are in the best possible condition. Still, the most trying time for the bees to winter is yet before us. WM. STOLLEY.

Grand Island, Nebr., Feb. 12.

Bees Wintering Fine

Bees are wintering fine in this part of the country with the exeeption of being short of stores. I winter my bees on the summer stands. I lost one out of 24 on account of being queenless. NICK JENTGEN.

La Motte, Iowa, Feb. 6.

Weather Affects Grapes, Etc.

I see a Mr. Kennedy (page 980, 1906) blames some insects or birds for cutting his grapes so that the bees can get the sap. Now I think I know where the trouble is, and that is the weather. If certain kinds of fruit are ripening and a nice rain should come, and the next day the sun shines right hot, the fruit will grow so fast that it will crack. At least I found that out several years ago on certain kinds of peaches, apples, and grapes; and then the bees and wasps have a good start.

Marissa, Ill., Feb. 2. C. A. FINGER.

Conditions in Texas

Our winter weather has been very injurious, especially to the fruit industry here in Texas. Not because of too much cold, but on account of the prolonged warm weather we had in January. Fruit-trees are in full bloom in many localities, and here in the neighborhood of San Antonio, the catclaw is also in full bloom at present. They are found only scattered over the country, but nevertheless if the season is right they yield honey immensely, and a beautiful, aromatic honey it is. But this year they are a thing of the past already, as far as honey-yielding is concerned. Our next hopes are horsemint and mesquite, but it is dry here, and for bee-keeping, the prospects are again not at all promising. I suppose hundreds and hundreds of colonies of bees died from starvation in this part of the country the last season. I fed 4 barrels of sugar to 80 colonies last year, and I am hoping for a favorable spring—an early spring with plenty of rain and sunshine, and plenty of flowers. If we should have a late, cold and dry spring like last year, then I fear I will lose many colonies.

OTTO SUELTENFUSS.

San Antonio, Tex., Jan. 29.

Indian Territory for Bees

"Illinois" asks Dr. Miller about Northern Indian Territory as a honey country. I have kept bees here for 12 years, and it is good on Grand River. My bees have stored as much as 9 pounds per day (average) during sumac bloom. There isn't much clover here yet, but plenty of sumac, grape, persimmon, locust, Spanish-needle in places, goldenrod, and other fall flowers. There is the best market here for honey of anywhere I know. Mid-continental oil and gas fields are near here. Any bee-keeper is welcome that will not cut the price and not market inferior honey. The honey flow has been light and of inferior quality for the past 2 years. J. T. HAIRSTON.

Salina, Ind. Ter., Jan. 21.

Bees in Fine Condition

We have had summer weather since Christmas, and our early honey-plants are in bloom so honey has been coming in freely. Hive are full of young bees and brood, and but little stores have been consumed. We have never seen bees in such fine condition at this time of the year before. We can not tell what the results will be, but they are promising now. J. J. WILDER.

Crisp Co., Ga., Jan. 25.

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Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3¾ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

☞ I can not be without the "Old Reliable." I think it is worth many times its price. It is a comfort and an adviser to me. It is far ahead of any other bee-paper I have seen so far.—A. L. Oliver, of Minnesota.

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Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. Chas. Mitchell.
Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. Oglesby.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. McColm.
Marion Co., Ill., July 13.

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To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

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CONVENTION NOTICE.

Minnesota—The Southeastern Minnesota Bee-Keepers' Association will meet in the Court House at Winona, on Tuesday and Wednesday, Feb. 26 and 27, 1907. Everybody is invited. E. C. CORNWELL, Sec.
Winona, Minn.

Notice to Illinois Bee-Keepers.—We have received the following from the Secretary of the Illinois State Bee-Keepers' Association, which should be of interest to every bee-keeper in Illinois:

The annual membership fee in the Illinois State Bee-Keepers' Association is $1.00, and by arrangement the National Association allows the members of other associations to come in a body through the secretaries at 50 cents per member. Having received letters from many who were already members of the National, we have resolved to accept such in the Illinois State Association (who already have membership in the National) at 50 cents. This will entitle them to a cloth-bound copy of the 6th Annual Report, which will soon be ready for the press. Those who come in before March 1, will be in time to get their names in the Report, in the longest list the State Association has ever had. And further, we have about 100 beautiful badges that will be given out to the members joining before they are all gone. JAS. A. STONE, *Sec.*
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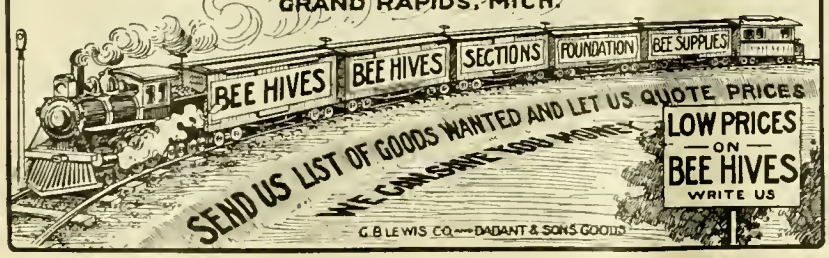

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Time tested and proven success; thousands in use; sold direct to you at wholesale prices. You get the maker's guarantee and save the middleman's profits. The *Removable Chick Tray and Nursery*—a feature no other has—explained in catalog. It's *free*. Write for it today.

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To introduce this tree and gain new friends we offer a 1 yr. tree free to property owners. Mailing expense 5 cts. A postal will bring it and our catalog with 64 colored plates. Write today.

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THE FRUIT-GROWER
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is the only magazine in America which is devoted exclusively to the interest of those who grow fruit. It is handsomely illustrated, and contains from 36 to 76 pages each month. It tells all about fruit of all kinds—and nothing but fruit—how to market, how to pack, cultivate, spray, prune, how to MAKE MORE MONEY from your crops. Sample copy sent free. Regular price is a dollar a year, and each subscriber is entitled to a choice of any one of our series of ten Brother Jonathan Fruit Books—the best in existence.

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A GREAT IMPROVEMENT
Will be found in
The
American Bee-Keeper
for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]
Mention Bee Journal when writing.

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At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Jan. 5.—There is practically no honey left in the hands of producers in this State, and barely enough in the Denver market to supply the home trade until spring. We quote strictly No. 1 white, per case of 24 sections, at $3 20; No. 1 light amber, $3; and good No. 2, at $2 80. White extracted, 8@8½c; light amber, 7½@8c. Beeswax, 26c for clean yellow, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Feb. 9.—The demand for extracted amber honey has brightened in the past 3 weeks. Amber honey in barrels at 6½@7½c, according to the quality and the quantity purchased. Fancy white extracted honey selling at 8@9c in cans. Comb honey is a drag on the market, fancy selling at 14@16c. Beeswax, 32c. for choice grade. THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 14.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

C. C. CLEMONS & Co.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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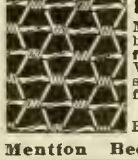
The Famous Honey-Producers will be ready early in April.

Carniolans, Italians and Goldens

Equal to the best, regardless of price. Prices: Tested, each, $1.00; dozen, $10.00. Untested, each, 50 cts.; dozen, $5.50.

6Atf GRANT ANDERSON, Sabinal, Texas.



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Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 57 styles and heights of farm and poultry fence. It's free. Buy direct. Write today

COILED SPRING FENCE CO.
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WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.

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R. A. BURNETT & CO.
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WANTED TO BUY AT TOP PRICES

WHITE CLOVER HONEY, both Comb and Extracted.

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IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

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We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Mentio Bee Journal when writing.

QUEENS By uniting swarms from 1000 colonies **NUCLEI**

I will sell Queens and Nuclei after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1 75.

4A13t R. M. SPENCER, Nordhoff, Calif.

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"It is continuous advertising that impresses the public with the stability of a firm."

Our Discounts on

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are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them? Have you read our Catalog?

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

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Catalogs issued in English or German.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

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265 & 267 Greenwich Street
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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year FEBRUARY 28, 1907 Number 9

AMERICAN BEE JOURNAL

MASSACHUSETTS AGRICULTURAL COLLEGE

Some Interesting Snap-Shots Taken at San Antonio

Oldest Cathedral in San Antonio.

Mexican Teamsters at Market Hall.

D. H. Coggshall inside the Alamo.

Front View of the Historic Alamo.

Hauling Cotton to Market.

(See page 166)

One of the Plazas in San Antonio.

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Objects of the Association.

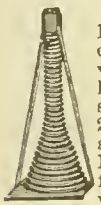
1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One** New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

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AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

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JOHN DOLL & SON, Proprietors,

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Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

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Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. Hives and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

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American Bee Journal

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And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

Any bee-keeper living within a reasonable distance of Chicago can save **from 25 to 50 per-cent** on almost any supplies needed next season, by coming to Chicago and taking advantage of our

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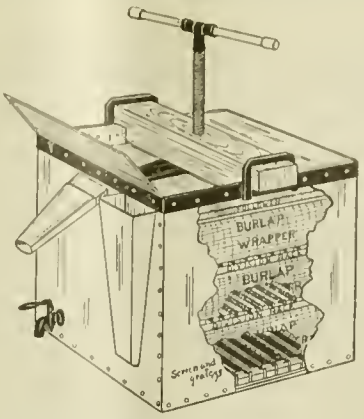
☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

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American Bee Journal Novelty Pocket-Knife Gold Fountain Pen

All for **$3.00**

(This cut is the full size of the Knife.)

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

Worker

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

SOLID GOLD FOUNTAIN PEN

Drone

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

⅔ size

We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00. Address all orders to

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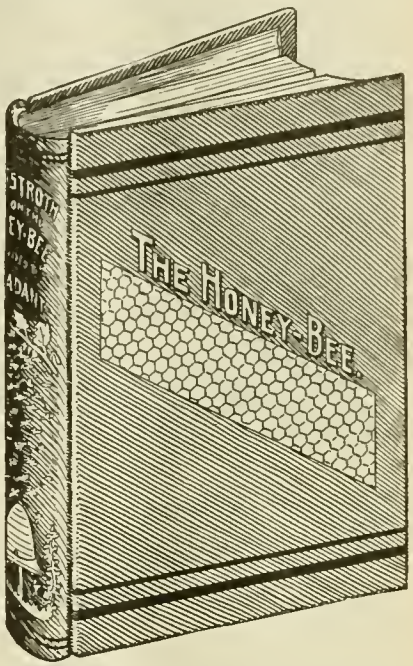
Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant.



Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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This is a splendid chance to get a grand bee-book for a very little money or work.

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12 Pkts SEEDS THE BEST TO BE HAD 20c

Beet, Egyptian; **Cabbage,** Surehead; **Carrot,** Danvers; **Corn,** Early Evergreen; **Cucumber,** New Cumberland; **Lettuce,** Early Curled; **Musk Melon,** Paul Rose; **Water Melon,** Sweetheart; **Onion,** Prize Taker; **Radish,** New Conical; **Squash,** Marrow; **Tomato,** Matchless.

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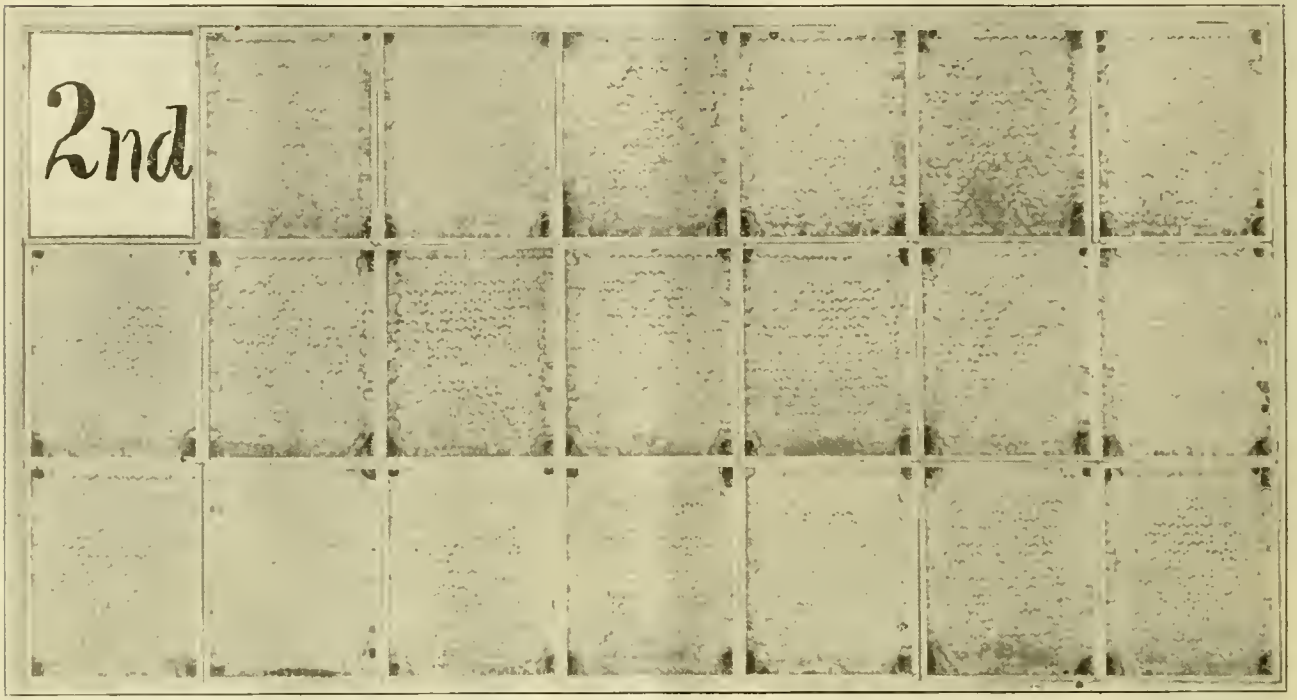
HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



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(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

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* These dealers buy our goods in carload lots but supplement them with local-made goods.

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GEORGE W. YORK, Editor | CHICAGO, ILL., FEBRUARY 28, 1907 | Vol. XLVII—No. 9

Miniature Sections

Considerable interest has been aroused among readers of the British Bee Journal as to getting out sections of honey weighing 1 ounce each, to be sold at 18 cents a dozen, a number of bee-keepers having united in ordering these little sections to the total amount of more than 4000. Years ago something of the kind was tried in this country, but it was found that it would not pay unless a much higher price per pound could be obtained than for 1-pound sections. At 18 cents a dozen the price would be 24 cents a pound; but as 1-pound sections can be sold in England at that price (Gleanings claims that best comb honey can be sold in England at 50 cents a pound), it is not likely that the successes of these miniature sections will be greater in England than it was in this country.

A Word to Each Illinois Bee-Keeper

If you have not already done so, you should get busy at once in writing to one or more of the men at Springfield that represent you in making the laws of the State. The danger is that you will think that the matter of making the laws that Mr. Dadant tells about on page 65, will be attended to without any word from you, and that it doesn't matter whether you write or not. But numbers count, and it is so important to bee-keepers to have these Bills passed that no one should begrudge the little time and trouble to write, if it be only a card asking favorable attention to the Bills referring to bees and to spraying fruit-trees when in bloom, which we published last week. To be sure, it may do more good to write something more than a card, perhaps referring to matters directly in your own vicinity, as in the following, which is an actual copy of a letter written to a Representative at Springfield by a bee-keeping constituent:

HON. —— ——.

Dear Sir:—For several years it has been the practise of Mr. —— to spray his fruit-trees when in bloom. That means a lot of dead bees for me, although he is under obligation to those bees for setting this fruit. The Experimental Stations say that it injures the crop to spray while in bloom, but he says he can't get through unless he begins before the bloom is over. When so straight and intelligent a man as Mr. —— does that sort of thing, you will easily see the need of a law not only for my protection, but to protect him against himself. Illinois should not be behind New York or any other State in this respect.

Twelve miles from here there is—at least there was—a man having bees afflicted with foul brood, and any day there may be a case within a mile of me. If it should be in the hands of an ignorant or stubborn man, it might easily mean disaster to me, for foul brood is to the bees as bad as yellow fever and cholera combined to the human race. A law is needed that will compel that man to kill or cure his bees.

I think you see the reasonableness of such laws as these, such laws as have been satisfactorily in operation in several other States, and ask your favorable consideration of the Bills now before the Assembly referring to bees and the spraying of fruit-trees when in bloom.

—— —— ——.

If you can refer specifically to your own case, as in the foregoing, well and good; but as said before, if you can do no more than to write two lines on a postal card, do it, and do it *at once.*

Don't make the mistake of thinking that because you did not vote for a man he will therefore not heed your word. You are one of his constituents, and you may be sure that your word will have its proper weight.

There may be other States where the foregoing suggestions will apply also.

Calcium Chloride in the Bee-Cellar

Standing on the platform that "A dry atmosphere in the bee-cellar is almost a certain guarantee that the bees will winter successfully," Allen Latham has been doing some experimenting, as a result of which he says in the American Bee-Keeper:

Let some one who has a rather damp cellar, and whose bees generally come out in spring weak, and then grow weaker by spring dwindling, act as follows: Let him purchase about 100 pounds of crude calcium chloride, not chloride of lime so-called, but the real calcium chloride, fused. Let him purchase a dozen or so of galvanized pans, and enough galvanized netting, 6 mesh or so to the inch, to furnish a piece to rest over the pan. Let him put a pound or so of the salt on each piece of netting, and salt here and there in the cellar, some above the hives, but many below the hives.

If the cellar is very damp the salt may get all dissolved in a few weeks. In this case, the pans must one by one be set in the stove-oven for an hour or so until the water is driven out, the salt again placed on the nettings, and the pans replaced in the cellar. The salt can be used again and again, requiring only a moderate baking to bring it back to its original state.

There can be no doubt that a cellar can be kept very dry in this way, and need have almost no ventilation. Bees need very little air indeed if the air be dry air. Their need of fresh air is like our need of fresh air; that is, plenty of oxygen. They need fresh air mainly that its drying power may help them to get rid of the water which keeps accumulating in their bodies.

The editor adds: Fused calcium chloride costs, in 10-pound cans, 15 cents per pound, and in 100-pound lots, 10 cents per pound.

The Loose-Hanging vs. Self-Spacing Frames

Editor Hutchinson is out-spoken in favor of loose-hanging frames of the old-fashioned sort. He says in the Bee-Keepers' Review:

I want no attachments on a frame—just a plain, straight, smooth, even, ⅞ frame all around. It seems a pity to me that bee-keepers will pay for these extra fixings on frames, when said fixings only make the frames less easy of manipulation. Self-spacing frames, staples, etc., are all right when an apiary is to be moved, but I would rather fasten the frames, even with nails, if necessary, when the bees are moved, if they are to be moved, then to be pestered all the season with all of these contogglements.

That sounds as if the chief, if not the only

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object, of self-spacing frames were to provide against the trouble of fastening when bees are to be moved. If that were so, the great number of bee-keepers who are using self-spacing frames would probably agree with Mr. Hutchinson. But the moving part is little taken into consideration, and some who probably could not be induced to use loose-hanging frames never move their bees at all. Instead of thinking with Mr. Hutchinson that the "extra fixings.....only make the frames less easy of manipulation," their very object in using them is to secure ease of manipulation. Very likely they would say, "All right, Mr. Hutchinson, if you can space your frames just as rapidly and correctly by finger and eye, then don't have any spacers in the way; but we can put frames in place more rapidly with spacers, and be ever so much more sure that they are always just right."

Honey as a Food.—We are glad to see that some of our readers are acting on the suggestion made in these columns, that they write something on the value of honey as a food for their local newspapers. Mr. W. S. Williams, of Pennsylvania, has written and had published a good article, about 10 inches long, which appeared in a recent issue of one of his county papers. We hope others will do likewise. It will all help when the time comes again for selling honey.

Mr. D. H. Coggshall, of New York State, who was one of the car-load of bee-keepers that made the trip to the National convention at San Antonio, Tex., last November, has been in Florida since then, and on Jan. 25th he wrote us as follows, from Stuart:

FRIEND YORK:—It is warm and very dry down here. The bees are gathering some honey, and they are whitening the combs. It is more work to take care of the bees here, as the worms and ants are continually on the watch for a chance to spoil the combs and eat the honey; while my combs, in the North, are piled away in the bee-house ready for use next May, and with but little care.

D. H. COGGSHALL.

Notice to Illinois Bee-Keepers.—We have received the following from Jas. A. Stone, Secretary of the Illinois Bee-Keepers' Association:

We are holding back from publication until the last moment possible, that part of the Sixth Annual Report of the Illinois State Bee-Keepers' Association that contains the list of members, thus giving all who would avail themselves of the benefits of joining before the Report is printed, the opportunity to do so. This opportunity will probably continue until about April 1st. The membership dues are $1.00, which also pays the annual dues in the National Bee-Keepers' Association. JAS. A. STONE, *Sec.*

Route 4, Springfield, Ill.

The San Antonio Views on the first page this week will, no doubt, be of interest to many. San Antonio has much of historic value, and one of our regrets is, that when there last November we did not have time to examine carefully more of the things that deserve attention.

Mr. C. J. Thies, of Wisconsin, kindly furnished us the photographs from which pictures Nos. 1, 2, 5 and 6 were reproduced; No. 3 was one of Mr. Coggshall's collection; and No. 4 was one of the two or three of our own that were only fairly good.

Market Hall was where the sessions of the National convention were held. We thought we had secured a good picture of it, but upon finishing the film after returning to Chicago it proved to be so defective as to be worthless. Our attempts at picture-taking on the San Antonio trip were almost all failures. We regretted it very much, as we had hoped to bring back with us some interesting views. But as several of our good friends who were in the car-load of bee-keepers were more successful, we are still permitted to present to our readers at least a few pictures of scenes that will long be remembered by those who were able to make the trip to old San Antonio.

Words of Appreciation, as well as the other kind, come to this office from time to time. We welcome both—the former for the encouragement they give us, and the latter for the hope that they may result in improving the weak places pointed out. The following, from a Pennsylvania reader, is especially kind and appreciative, as well as appreciated:

EDITOR YORK:—In sending you my renewal for the "Old Reliable," I would like to give you a word of encouragement. I notice that once in a while the kicker gets in a word, and why not allow the faithful readers also a word? Personally, I regard the editor of such a paper as the American Bee Journal as a benefactor to the bee-keeping fraternity. I especially like the way in which you have the American Bee Journal divided into departments; a fellow always knows where to look for what he wants. Many single issues are worth more to me than a whole year's price.

Yours faithfully, GEO. H. REA.

To Minnesota Bee-Keepers.—We have received the following from W. R. Ansell, chairman of the Executive Committee of one of the two State bee-keepers' organizations now in Minnesota:

The Minnesota Bee-Keepers' Association, which was founded in 1888, has made a new departure this year by incorporating, with a membership of 51, under the educational laws of the State of Minnesota.

By the acceptance of its 3 delegates to the meeting, last month, of the Minnesota State Agricultural Society, it is recognized as the State Association.

It has adopted a new Constitution and By-Laws, its objects now being the promotion of scientific bee-culture and of the general interest of the bee-keepers of the State of Minnesota; to assist the State authorities in the enforcement of laws against the adulteration of honey, and for stamping out foul brood; and to co-operate with the National Bee-Keepers' Association in the defense of its members in their lawful rights.

Article VII reads: "Any member shall have the right to vote by proxy on any subject and at the general meeting, provided that no member present shall vote more than two proxies."

The Association is affiliated with the National Bee-Keepers' Association, so that by payment of $1.00 annually a bee-keeper may become a member of both Associations.

Besides its annual meeting in December, it will in the future hold a spring meeting, and another during the Minnesota State Fair week; and the proceedings of each meeting will be published by circular to the members.

In the future, "Co-operation" will be the watchword of its policy.

Membership dues should be sent to the Secretary, Chas. Mondeng, 160 Newton Ave. N., Minneapolis, or to the Treasurer, Rev. J. Ridley, Monticello, Minn.

W. R. ANSELL, *Chm.*

The Bee a Sabbath Breaker!—Mr. C. G. Chevalier, of Maryland, sends us the following from the Philadelphia Press:

"Fust thing ye know," said Deacon Hardshell, solemnly, "we'll have to be tryin' this new minister for heresy. He's been sayin' all Christians should take pattern o' the bee as a model of industry."

"My land!" exclaimed his wife, "whut's wrong o' thet?"

"Why, the bee works on the Sabbath same's any other day."

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3¾ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

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The Legumes—Valuable as Nectar-Yielders

BY PROF. A. J. COOK.

There is no family of plants in all the vegetable kingdom that can rank for value and interest with the Leguminosæ. There are many reasons why this family is of peculiar interest, and as it embraces many of the most valued of the honey-plants, every bee-keeper must be interested in an account of its full life history.

Irregular Flowers.

One of the things that interests us at once as we study the legumes is the fact of irregularity of the blossoms. By this we mean that the different flower-leaves are very varying in form. The sepals or green leaves just about the flower are also irregular. The number of petals—the showy parts of the flower—are 5. Thus we say that the flowers are on the plan of 5. If we closely examine the flower of the pea or bean, we note this irregularity. The large upper petal is called the banner; the two lower ones are closely approximated and enfold a pistil and stamens. From their form these are called the keel, because they resemble somewhat the keel of a boat; the other two petals are called the wings, and their spread at the sides makes this name appropriate. There are usually 10 stamens, 9 of which are usually united, the 10th being free. The pistil develops into a pod or legume, and hence the name, Leguminosæ, applies to the whole family. Every one understands the form of a pod. It is the flattened fruit of these plants and consists of two valves, to one of which the seeds are attached.

Economic Importance.

As stated above, no family of plants rank in importance with this. Even the cereals—Graminiæ—fail to equal the legumes in value. Not that the plants themselves are more valuable, but in what they do they are so important that no other plants can at all be compared with them in this respect. Here we have the clovers, the beans and peas, and the vetches. Thus it will be seen that here are found many of our most valued farm plants.

Honey-Plants.

The bee-keeper is more indebted to this family than to any other, for here we find all the clovers, which rank at the very head of bee-plants. The mesquite is also found here, and besides these we have the red-bud—Cercis—and the locusts. The honey-locust certainly ranks very high as a honey-plant, while the mesquite is what places Arizona and contiguous regions so high in the rank of honey-regions.

Pollination.

The bees are as important to this family of plants as the plants are to the bees. It is now well known, and almost as generally recognized, that without bees these plants will not be fruitful. The red clover must have the bumble-bee, and our white clover, alsike, and alfalfa could not produce seed at all, if it were not for bees or other insects which carry the pollen from one plant to another. Indeed, as I have before pointed out to our readers, the very fact of irregularity of flower is proof positive that this work of cross-pollination is absolutely essential to full fruitage.

Shade or Ornamental Trees.

It is here also that we find many of our finest shade-trees. The Acacias, so common in Australia, and which have been imported so largely into California, belong to the pod-bearing plants. These, like the locusts, have double use, for they not only possess rare beauty, but they are also valuable for honey. Some of the Acacias, like the partridge pea of the East, have extra-floral glands, and thus they not only give the bees pollen but honey from two sources. I know of very few trees that are more beautiful than these Acacias, some of the species being not only exceedingly graceful, but the foliage is so delicate that even when the tree is not in bloom it is a thing of beauty. When in full blossom the tree possesses a glory that is indescribable.

A Curious Plant.

It is to this family that the Mimosa or sensitive plant belongs. As is well known, this plant is so exceedingly sensitive that a slight brush against the foliage causes the leaves to shut up and the stems to fall. As soon as the irritation ceases the stems rise again and the leaves open. These plants are mainly tropical, and have been admired by all who have crossed the Isthmus of Panama, where they grow in great luxuriance.

Enriching the Soil.

But the greatest use of the legumes is that of adding the nitrogen of the air to the soil in combined form so that is can be used by the plants. One of the greatest improvements in agriculture in late years is the free and general use of clover crops to enrich the soil. No soil can be fertile that has not plenty of nitrogen. Every productive soil must also be rich in humus, by which we mean decaying organic matter. Again, no soil can be very fertile except as it harbors untold millions of bacteria, or minute vegetable organisms. In plowing under great crops of these legumes—clovers, vetches or peas—we bring about all of these conditions.

If we examine the roots of any of these legumes, where they have long grown and are vigorous, we will find them thickly covered with tubercles, often as large as a pea. Examination shows these to be the home of very minute bacteria or vegetable germs. These breathe in, if we may so speak, the nitrogen of the air, and so combine it into nitrates that the plants can use it; and thus when we plow these crops under we are storing our soil with the most costly of the fertilizing elements. This matter of plowing under clover crops is becoming very general in Southern California, and is adding very greatly to the fertility and value of the orchards.

Claremont, California.

Non-Swarming Hives to Prevent or Control Swarming

BY DR. G. BOHRER.

To make such hives to meet the wants or desires of the bee-keeper is a subject that has called, and still calls, into requisition the thoughts and efforts of many apiarists. And, as far as I have given attention to the line of argument used in discussing this question, the dimensions of the hive, together with regulating its entrance, have received more attention than any other matter affecting the swarming instinct of bees. I say "instinct," because it is a fixed law of their nature, just as it is in any other part of the animal kingdom, to propagate the species; and in every department it is, to an extent, influenced by circumstances. But to stamp out this inborn inclination is one of the impossibilities. Hence, we need not, in our efforts to prevent excessive swarming, entertain a hope of ever being able to "cut out" swarming entirely. A large hive is, according to my observations, one of the most effective means of holding in check the disposition to swarm.

In 1864, I made one of the large Langstroth observation hives which contained either 16 or 18 frames of standard size. While its colony gave me more surplus honey than that in any other hive I ever used, it never, during the 7 years I used it, cast but one swarm, which was a monster. During the last 4 years I have had but 5 or 6 natural swarms. Having adopted the plan of giving my bees room as it seemed to be demanded, I have found it requires less labor and attention to use a 10-frame Langstroth hive, one story early in the season, and when room is required, to add another story.

In order to test this method of controlling the matter of swarming, and to test the merits of a large hive in securing the largest possible amount of honey, I ordered 10 14-frame Langstroth hives. And, as I run almost entirely

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for extracted honey, I will add a second story if the season and the numerical strength of the colony demand it. Such a hive must be occupied by a colony headed by a prolific queen. In fact, any colony to be profitable must have a good queen, if profitable results are expected. These hives will, of course, be heavy to handle. But they will require very little handling. For after the bees have been set to work in the upper story, the hive will require but little if any lifting. But in case they do, two persons can, of course, do the work more easily than one.

These hives will be very heavy for ladies; but such ladies, I will suggest, should "commit matrimony," and be sure to "catch on" to a partner who is not afraid of bees. And in case a bachelor or widower keeps bees in this sort of a hive, let him also look up a "honey;" not smaller in avoirdupois, I will suggest, than 80 pounds, nor larger than 300. And my word for it, such an "outfit" can manipulate a 14-frame Langstroth hive even when well stored with honey.

Some practical bee-keeper, who prefers to run for comb honey, can put sections on a 14-frame hive, with both a good colony and a good queen, during a good honey season, and see how far it will outstrip an 8, or even a 10 frame, hive.

Let a number try the foregoing suggestions. It won't cost much, and may benefit us in points of desirable knowledge, more money, and, best of all, more contentment. And, finally, as such hives will cost a little more than a small one, see to it that in making them, good lumber is not ripped into common pasteboard thickness, and used as either a dummy or a bottom-board.

Please, Mr. Editor, don't think I am on the war-path, and after any of our manufacturers, farther than to let them know what I find to be next to worthless about any of their products. I hold it to be our duty to let them know what we want, and to ask them to supply the need. Mr. Hasty, in his "Afterthoughts," will endorse all I have said.

Lyons, Kans.

Lower Freight-Rates East and West

BY F. GREINER.

It would be difficult to deny the fact that the interests of the Eastern honey-producer are in opposition to the interests of the Western producer as to the lower freight-rates; and when the National is making a fight for lower freight-rates on honey, it is doing it for the interests of the Western fellows. These, of course, are looking to the Eastern market to dump their product upon it, and the higher the rates are—yes, if they were prohibitive, the greater would be the benefit the Eastern producer would receive.

The more Western honey that can be kept out of the Eastern market, the better in all probability would be the price the Eastern producer would receive. It can therefore hardly be expected that the Eastern producer will become vey enthusiastic over the prospect of having low rates for the Western honey-producer, who is enabled by virtue of the better bee-pasturage, cheap lands, etc., to produce cheaper and to undersell the Eastern fellow.

Railroads discriminate between Western shippers of grain, etc., and the Eastern shippers, so that a car of wheat will come from Chicago to New York about as cheaply as from some points inside of New York State to New York City. It is expected that they (the railroads) do the same with the honey-producers. I can say that the farmers did not like the idea of competing with the Western grain-producers when the tariff is the same, and perhaps the Eastern honey-producers will feel a good deal the same way, and will not hail the day with great delight when honey can come to New York at the same price from California, Texas and Colorado as it does from inside the State.

I realize that this is a very selfish view to take in the face of the fact that honey is selling a great deal too high, and that all of us Eastern honey-producers are becoming rich; nevertheless, such is man.

I am glad to learn from Mr. Muth that railroads sometimes pay damages. It is news to me. I have shipped honey for 30 years, and some lots were broken, but I have never yet had one cent of damages paid me by a railroad company. I have shipped tons of comb honey at an exhorbitant rate (1¾ cents per pound), and before the railroad accepted the shipment I always had to give them a release of all responsibilities. In view of this fact, of course the rate was a great deal too high. Of late years we obtain rates on the basis of fruit, and so freight counts very little. My admitting that some of my honey shipments arrived in broken condition may be considered as pleading guilty to the charge Mr. Muth makes, that many honey-producers (myself included, perhaps) produce honey illy fitted for transit. I admit that I, and many others, do not use a great deal of comb foundation in sections, and no bottom-starters whatever. Still we produce honey as good as Mr. Muth can possibly wish for. It is not desirable to use comb foundation except as small starters, and absolutely not necessary to produce a honey that will ship. I am sorry that Mr. Muth misleads the bee-keepers by such advice as he gives. It can not fail to hurt the honey-trade if followed.

Honey is of a fragile nature, and it will always be injured in transit when not handled properly. We can not possibly produce a honey that will withstand such usage as bricks or cordwood do, even should we use cast-iron comb foundation. And when we do produce it, it will not be wanted. If railroad men could be induced to handle honey with more care, much loss would be prevented.

A friend of mine bought a case of honey of me last fall, and I defy Mr. Muth, or any other man, to produce anything better than that case was, as far as being well built out and securely fastened all around; (the weight was 26 pounds for 24 pound boxes), and yet that case was smashed in transit, being shipped 50 miles; there were but 4 or 5 sections unbroken in the lot, veneering being between the combs at that. Did the Railroad Company pay for that honey? No! Railroad companies are in it to make money, not to pay damages; that is my experience, and I would not want to go to lawing with them. It might result in throwing away good money. It does not pay to go to lawing with a railroad company or a commission man; or with any one, for that matter.

Naples, N. Y.

Requeening Colonies in the Fall

BY EDWIN BEVINS.

In September 1st Gleanings, I find the following from J. A. Green:

"Now is the time to requeen your colonies. If you have only one apiary, and do not mind having your bees swarm, it may be as well to let the bees do the superseding themselves."

I have only one apiary, and do not mind letting the bees swarm, but under no circumstances would I leave the bees to do the superseding wholly themselves. In the time of the white honey-flow, and sometimes earlier, the apiarist will learn where his poorest queens are to be found. If found only a little before the beginning of the flow, there is generally nothing to be gained by requeening at that time, and when the flow is on, the man who does not mind having his bees swarm should let them alone as much as possible. But when the white flow is over, and there comes a season of comparative leisure, then is the time for replacing his queens known to be inferior, with queens reared for the purpose during the flow.

Under circumstances generally prevailing in yards cared for by one man, there is no need, and but little excuse, for the apiarist to send to a distance for his queens to be used for superseding purposes at the time indicated. His queens should be supplied from cells built in strong colonies under the swarming impulse in the early stages of the swarming period. Every bee-keeper is supposed to know how to care for these cells. In order that he may reinforce the supply, lest it be insufficient, he should use one or more of his colonies for queen-rearing, and begin with the beginning of the honey-flow. My experience proves to me that queens thus obtained are the superiors of any obtained from a distance, with rare exceptions.

It is doubtless a fact that some of the queens that one has marked for destruction will be superseded by the bees some time in the course of the season. It is equally certain that some of them will not. The cost of substituting queens reared under the conditions above mentioned, to take the place of the queens supposed or known to be failing, is not great. If one makes the change he may be tolerably sure of re-

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sults. If he does not, he will live in some doubt, and, perhaps, in some dread of what the outcome may be. If he does not, it is my experience that he will have some, perhaps many, disappointing colonies in his yard the following season.

I have always some colonies in the yard with queens that I have no means of knowing whether they are in a failing condition or not. These are the colonies that have gone through the season strong at all times and have stored much honey. Some of the colonies that are in this condition now will have failing queens or no queens at all in brood-rearing time next spring. It is hazardous to requeen all such colonies in the fall, as you may destroy many a valuable queen. Therefore, it is better to await developments. By substituting young queens that have in June and before, proven to be failing ones, it may be presumed that the bee-keeper has done neither the colony nor himself any harm, and he is almost sure to reap a balance of gain from the transaction.

Leon, Iowa, Sept. 7, 1906.

[Through an oversight, the foregoing article failed to appear when it should have been published—early last September.—EDITOR.]

Management of Swarms, Etc

BY C. W. DAYTON.

On page 1035 (1906), Mr. Grant Anderson says: "Don't waste the bees' time by confining the queen in a box for several days." It is given as a caution after reading my article on page 931 (1906). I try to be as explicit as possible, but this swarm management is a whole system, and can not be described in one article. It calls into use plans and fixtures never before used. Nearly all bee-keepers think themselves more or less experts, and they also doubt that an entirely new system could be devised, and on this account they are likely to mix up the new system with their old plans, and this mixing causes trouble.

From one of my articles, which appeared in another bee-paper, I will quote:

"If the swarm issues, say, at 8 or 9 o'clock in the forenoon, I shake the bees from the limb into an empty hive-body, having the entrance closed and a screen over the entire top to give plenty of ventilation, while the bees are confined in it. The caged bees should be set in a shady place. After being in this box *an hour or so,* or, long enough to become clustered, I can usually raise the screen without any bees taking wing, and cage the old queen. Take the queen away entirely. This will make them very uneasy. Late in the afternoon, or, after they have been in this uneasy state 5 or 6 hours, I raise one edge of the screen slightly to allow the bees to get out slowly and return to their old hive of their own accord, but queenless."

This is my plan or procedure to prevent all increase, and there is no "several days" nor any "as much as one day" about it. If the bees and queen are to be hived in a new location, or, in other words, if increase is desired, then leave the queen with the bees in the box. But that is not so easy a job as it may seem that it should be, for the reason that the bees are likely to desert the queen and return to the hive from which they came. The reason they desert is either because the bees were not in the swarming mood, or else the queen is nearly worthless. The queen might be a good egg-layer, but egg-laying does not always prove a good queen, for the bees may eat most of the eggs or allow the larvæ to starve while plenty of larval food could be had were the bees in the disposition to provide it. And supplying a swarm with drawn combs, or a comb of unsealed brood, or clipping the queen's wing, as Mr. Anderson suggests on page 1035, aggravates the bad condition.

We can tie a sitting hen on the nest, and adjust a weight on her back to compel her to "sit," but it is not "sitting." The temperature of a sitting hen is several degrees above the normal temperature of other hens. It is often that a hen will sit a few days and then leave the nest. If we undertake to compel the hen to sit, her temperature will be sure to fall lower than the temperature of other hens, which is an ill temperature for the eggs. And the same conditions are in operation with the bees.

It is not the number of eggs, nor the arrangement of the nest, that satisfies the hen, nor is it the arrangement of the combs or hive that satisfies the swarming bees. There is an ingredient which mechanical devising can not supply. It is the presence of this particular ingredient which causes the higher temperature of the sitting hen and the presence of the same ingredient causes a higher temperature in a swarm of bees. If there is an abundance of this ingredient we are sure to get a good "hatch" in the case of hens' eggs, and in the case of bees the new combs will be rapidly constructed, brood will be plentiful and well fed, and supers will soon be occupied and filled with stores of new honey.

In testing swarms in a box we can determine in a few hours' time the disposition and probable utility of the swarm, and if their disposition is faulty it can be altered or corrected. Any swarm can be sent back to the old hive, but as to whether they should be established in a new location depends upon the height of their temperature. The greater their energy and disposition to construct a new domicile, the higher the temperature. This higher temperature manifests itself to the observing and experienced eye because it changes the actions of the bees from their usual actions. It changes the pitch of the sound of their wings. Any expert musician would soon discover this.

If we put the swarms having virgin queens in a box with a queen-excluder on it, to remain until the next day, about half of the swarms will desert and return to the old hive, leaving the queen entirely alone in the box. Where the queen is old, the bees never all desert, but often there is but a small cluster of bees which remain with the queen.

Now, if the queen is an extra good one, the bees will all stay in the box with her, and when the other bees come home from the fields and find that the swarm has left the hive these bees will search about the apiary and go in with the swarm in the box. By this process we get a good-dispositioned quantity of bees, and good queens in the swarms. When bees perform in this manner we may know that they mean "business," and that they will construct their new combs in haste. Swarms of this kind generally prepare to swarm again in 28 days, by constructing queen-cells on the 21st or 22d day after hiving. If drawn combs or full sheets of comb-foundation are put in when they are hived, there is seldom made any preparations for future or further swarming, at the 28-day period.

Most bee-keepers would prefer the swarm and queen which do not prepare to swarm. But, in reality, this swarming disposition is an indication of energy. If they lack this energy they will fall short of energy for other accomplishments, such as constructing combs, filling surplus-honey supers, or brood-rearing. This energy corresponds to the steam in an engine. We would not oppose but guide it into useful action. This energy starts out early in the season—first, to build up sufficient brood and force of bees to swarm early; not to swarm once, but twice. That is, the swarm is calculated to swarm. In order to swarm the second time it is necessary hastily to fill the hive of the first swarm. Thus there is a chain of succeeding periods of energy. When the chain is interrupted the bees become listless, less industrious, less productive, and have less interest for all the operations of the hive; may even allow a share of the brood to starve, or from lack of heat it may chill, the same as eggs chill through lack of attention or protection by the sitting hen. The brood-cells may not be properly cleaned out, and filth would accumulate in the layers of cocoons, and more dead brood follows. With the introduction of the particular bacilli foul brood results.

By prevailing methods swarms are scooped up and poured out with no more consideration of the wants and notions of the bees than if they were pebbles. Instead of conservation, bee-energy is extravagantly wasted; indeed, the bees are often condemned because they exhibit energy. Though this energy can not be readily seen with the naked eye, it is none the less materialistic and valuable when rightly understood. As the swarming season advances the old and best foragers are estranged from all engaging interests, and become transformed into mere sojourners in a strange land, suspicious at any moment of being ruthlessly torn from home and friends and other ties. It might not be of so much consequence had bees a memory lasting only a few days, but the indications are that their memory extends throughout their lives.

Chatsworth, Calif.

American Bee Journal

Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

(Continued from page 150)

WEDNESDAY MORNING SESSION.

Comb or Extracted Honey—Which?

"Which is the most profitable for a beginner to produce—comb or extracted honey?"

Mr. House—Extracted.

Mr. Hershiser—A difficult question to answer. Depends upon the *beginner*. Probably comb, if but a few colonies are kept. More care is necessary to produce *good* extracted honey than comb.

Mr. Holtermann agreed with Mr. House. He had seen beginners put honey-boards on upside down, and put sections together inside out. Sections produced by beginners are never well-filled, and are put on the market in bad shape.

Mr. Byer—Small producers are not the guilty ones in putting unripe extracted honey on the market.

Mr. Chrysler—A beginner that will put sections together wrong side out will not be apt to produce good extracted honey.

Mr. Edmondson and Mr. Shaver both thought beginners would better start with comb honey. One reason was that they would not be so apt to have their bees starve to death.

A vote showed the members to be about evenly divided on their opinions on the question.

At this point the following resolution was presented, which, after discussion, was passed unanimously:

"While we would encourage people to go into bee-keeping who are prepared to give it the same attention and study that they would give to any other calling, we would strongly advise any who are not so prepared, not to invest in the business, as results are sure to be unsatisfactory to the investor as well as to the industry at large."

Mr. House said certain periodicals were booming bee-keeping as a fortune-maker. Many were being deceived. He would heartily endorse the resolution.

Mr. Chrysler and several others stated that in their locality of all who had started bee-keeping, nine out of ten had made a failure of it.

Mr. Laing—People are influenced a great deal by bee-keepers' conventions and conversation. He heartily supported the resolution.

Mr. Miller then read his paper as follows:

SHORT CUTS IN THE APIARY

Being at a loss where to start, I may say that I am probably what might be called a crank on short-cut methods, having studied them and fitted in ideas from various systems until they are now saving me the expense of a man's help during the busy working season.

First, the Heddon hive gives me many short cuts in work all through the season. Commencing with queen-clipping, the queens are smoked to the queen-excluder, and there caught without the trouble of removing frames. As swarming-time approaches, a hive-lifting device enables me to diagnose and suppress swarming perfectly, and thus at each stage of the work short cuts follow. During the time of extracting, no brushing of combs is tolerated, the supers are set on and beside the hive, and after setting off a certain number, they are placed on a large special wheelbarrow, with a 30-inch wheel, and taken to the house, and from here they are loaded and drawn home from the outyards. Here the extracting is done by a 2-horse power, vertical gasoline engine, the honey running to barrels in the cellar. In packing the bees for winter, another specially-constructed 'barrow together with two 3-bushel baskets, and a very large, short-handled fork, enable me to pack as many colonies as two men formerly did.

Now a word for my "ready helper" who smokes: This is a sturdy little fellow with a copper fire-box, 4½x8½ inches, and lung capacity of 8½x11¼ inches. The cap is hinged on the left side, and to prevent it from flying open under any and all circumstances while in use, it is held securely by a short piece of chain composed of very short links, one end being riveted to the cap, while the other end is drawn down and into a groove filed in a piece of galvanized iron, which is bent at right angles and riveted to the barrel. This gives an expansive fastening, thus allowing for coking, which takes place at the edges, and yet gives a secure fastening.

Another very useful feature which prevents the grass from falling out of the cap and into the fire, is a piece of metal bent at right angles and riveted just above the lower edge on the inside of cap, projecting in one-half inch. This effectually holds the grass where it is placed, and prevents the necessity of frequently refilling. F. J. Miller.

Mr. Hershiser—How do you prevent swarming with the Heddon hive?

Mr. Miller—Pry apart the 2 sections of the brood-chamber and diagnose the condition of the colony. Cells will always be built between the 2 divisions. If cells are present, simply carry one section of the brood-chamber to another stand. In 4 days examine to see on which stand the queen is, and if not on the old stand, return her there.

Mr. Hershiser—No doubt the division space is a handy place for the bees to construct cells, but on Langstroth frames they sometimes construct them along the end-bars.

Mr. Miller—My frames are closed-end, so that is impossible with me. I never look for number of cells, but simply find out if there are any present; that's all I want to know.

Mr. Chrysler—The Heddon is too small for me. I use a hive equal to 2 8-frame Langstroth.

Mr. Miller had tried using 6 frames in the Heddon hive for extracting purposes, instead of 8 frames, and was well pleased with results.

Messrs. Chrysler, Edmondson, Shaver, and others, favored shallow extracting supers, Mr. Chrysler declaring jocularly that any one who didn't use them was behind the times.

Mr. Holtermann favored the full-depth Langstroth frame, but admitted that Mr. Miller puts up strong arguments in favor of the Heddon hive. Years ago he had tried them and didn't know how to use them. However, he was not in sympathy with Mr. Miller's plan of hauling the combs of honey home for extracting.

Mr. Byer—Heddon hives are a nuisance if an apiary gets infected with foul brood.

Mr. Miller—They need to be made very accurate, and frames wired perfectly to prevent sagging.

Mr. House used super foundation and only one wire in frames the same depth as Mr. Miller's, top-bars ¼x⅞ inches. Yet he had no sagging.

Mr. Coggshall—End-bars on manufactured frames are made too light. Basswood is better material than pine for top-bars.

Mr. Holtermann catches hold of end-bars when shaking frames, yet he had broken many ends of top-bars off.

Bee-Keeping Far North.

"Can bee-keeping be carried on successfully in Alberta and Saskatchewan?

Mr. Craig said he had no personal knowledge, but they were shipping a lot of supplies out there.

Mr. Smith—Only where shelter is attainable, bumble-bees are present all through the West. Last season the yield was light, but a year ago a number of bee-keepers had averaged 100 pounds per colony.

Mr. Holtermann said he knew of one man in Alberta who had sold $600 worth of honey in one season: as more irrigation was used, quite likely the more honey would be produced, as alfalfa was grown and local conditions were quite similar to Colorado.

Condition of Combs for Extracting.

"What state should combs be in before extracting?"

Mr. Coggshall—In New York State! [Laughter.]

Members agreed that we should err

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on the safe side, and be sure the honey was well ripened.

COMB HONEY OR EXTRACTED?

"Which is best—comb or extracted honey?"

Mr. Hershiser said no difference. We should try to educate people so that they will be willing to pay as much for extracted as for comb honey; was in favor of small packages, and showed a tumbler which, on being emptied of honey, made a handy drinking glass.

Mr. House agreed with Mr. Hershiser. He could, in the clover-flow, produce as much comb as extracted. In the fall there might be a difference in favor of extracted.

Mr. Chrysler—Sell small packages now, and in 10 years the people will be buying in large packages. The Toronto Fair deserves more credit than has been given, for distributing small samples of honey among the people.

In answer to the query as to whether we should reliquefy honey that had granulated in the store, the opinion was brought out that if the work is properly done at first, there will be no call for the second operation.

Mr. Armstrong—The secret in keeping honey liquid is in heating it after it is sealed.

Mr. House mentioned an extensive apiarist of his acquaintance, who had put up 10 tons in ¾-pound jars, without the least trouble of its granulating again.

Mr. Hershiser thought there might be something in Mr. Chrysler's idea of *baiting* customers with small packages.

Mr. Trinder favored large packages and incidentally put in a plea for buckwheat honey.

Mr. Holtermann—Greater uniformity of packages for both comb and extracted is desirable.

Mr. E. R. Root came in just as meeting was adjourning, and was heartily applauded.

(Continued next week.)

Conducted by J. L. BYER, Markham, Ont.

Number of Ontario Non-Bee-Paper Readers

A year or so ago the statement was made at an Ontario convention, and again repeated at the Brant County convention, held last month, that about 8000 bee-keepers of Ontario do not take a bee-paper. I questioned the accuracy of the statement both times, and since coming home from Brantford, I have been looking into the matter, and I am thoroughly convinced that this (York) county has not its proportionate amount of that 8000. To be sure, we have had a county association for a number of years, and there is no question but that is a powerful factor in the dissemination of bee-culture; and I more than suspect if there are anything near 8000 bee-keepers in Ontario who do not read bee-papers, that the bulk of them reside in counties that have no organization.

Black Bees vs. Italians

Do you know, Mr. Editor, I have an idea that quite a large number of American and Canadian bee-keepers will be inclined to sympathize with the views of Mr. Macdonald (page 195) relative to the merits of the black or German bees. At any rate, there is no question but that a host of our extensive apiarists do not want the *Italians* in their purity. The Italians have been lauded to the skies (sometimes by interested parties) to such an extent that it is considered almost a crime to write anything in opposition to them. Certainly the black bee has its failings, but who will say that the Italians in some respects are not also found wanting?

By far the largest yields in three successive seasons in one of my apiaries, has been from a colony of German bees, as pure, judging from general characteristics, as it is possible to get them. I might add that in this same yard, each season, there has been a number of Italians bred from the most *aristocratic* blood in America.

Personally, I think that if half the attention had been given in the past towards eliminating the objectionable features of the blacks, as has been spent in trying to improve the Italians, to-day the former bee would be in every way as desirable as the latter. The majority of my own bees are a cross of Carniolans and Italians, with a considerable admixture of black blood; and, to tell the truth, I am in no particular hurry to get rid of this *mixture*.

The U. S. Pure Food Law and Its Effect on Honey—Unripe Honey

According to press reports, Dr. Wiley, Chief of the Chemistry Bureau of the United States Department of Agriculture, appears to be one of the chief figures in conducting the present agitation for "pure food." In fact, the good work he is doing in that direction will have a tendency to cause bee-keepers to forget the "joke" perpetrated on them some years ago, relative to the manufacture of comb honey. From a lengthy article in the Toronto Globe, I take the following appetizing morsel. Speaking of gelatin, Dr. Wiley said:

"It is made from the scrapings of hides. These hides go into the tanner's vats, and these hides that smell to heaven, are treated and trimmed, and the trimmings used to make gelatin. The Marine Hospital service found the tanner's germs in gelatin." The *best* of this gelatin is used in glue factories, and what is not fit for glue is made into commercial gelatin, which "is used for putting into ice cream and candies, and for making capsules that you take your medicine in."

If conditions are to be remedied, well and good. If not, according to some of the old adages, such as, "Where ignorance is bliss 'tis folly to be wise," and "What the eyes don't see the heart does not grieve for," Dr. Wiley, in giving this information to the public, has performed a doubtful service. Seriously speaking, though, I believe the present agitation can not help but bear fruit, and we as bee-keepers should do our part towards helping the good work along.

One thing is certain, as the public gains confidence in other food products, to a corresponding degree will they cease to suspect honey as being a mixture of glucose and other ingredients. As has been pointed out quite frequently, lately, honey and glucose, when labeled as such, will not sell as readily as the same mixture labeled "pure honey;" consequently, if the new law is enforced, bee-keepers are sure to be greatly benefited.

At the same time, I can not help but think that United States bee-keepers are expecting too much for the first installment of good things being brought them by the Pure Food Law. One would think from reading the apicultural press of the United States, that the Glucose Trust was killed and decently buried, whereas, it appears as viewed by the writer, to be simply in a trance, and likely to be resurrected at any time. Personally, I look for the Glucose Trust to *die hard*, and before his demise we look for more spasmodic kickings than have been manifested as yet.

Aside from the matter of adulteration of honey, the bee-keepers of Canada and the United States alike, have another obstacle in the way of selling their honey to the best advantage. I refer to the large quantities of *unripe* extracted honey thrown on the market every year by unscrupulous or *ignorant* bee-keepers. R. A. Burnett & Co., of Chicago, hit the nail squarely on the head when they wrote the following to Gleanings:

"If the bee-keepers will let their honey ripen before taking it off the hives, it will do more than any law passed in furthering its consumption."

I have tested good honey mixed with glucose, and also have sampled more than once unripe pure honey. Neither

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appealed very much to the palate, but the first-named was by all means to be preferred.

Unripe honey is a hard thing to legislate against, and the only remedy I see is the education of the bee-keeper to understand that it is to his interest to put only well-ripened honey on the market. Even if you can not appeal to a man's moral instincts, as a general rule, if you pander to his pocket-book, you can convince him. It is always easier to tear down than to build up, and in this matter of better honey, it is discouraging to know that some who could be a power for good if they choose, on the contrary use their influence in persuading bee-keepers that it is not necessary to allow the bees to ripen the honey on the hive.

Conducted by EMMA M. WILSON, Marengo, Ill.

Women Lead in Bee-Keeping

A. I. Root has found at least one region where women take the lead in bee-keeping. He says in Gleanings in Bee Culture:

It is a little peculiar that bee-keeping all through the Black Hills seems to be largely in the hands of the women. Our good friend Mr. Anderson has a harness-shop, and does quite a business; but his wife has been succeeding so well in bee-culture that I believe he contemplates closing up his shop and giving his whole attention to bees. I think they have now something like 130 colonies, and have started a very pretty apiary a mile or so out of town.

Speaking of Bellefourche, S. Dak., he says:

I found quite an excitement in regard to what had recently been done in bee-culture at this place; and, queer enough, bee-keeping there is almost entirely in the hands of women. One lady said that the bees got so much honey they were everlastingly swarming; and there were so many swarms that came out when nobody was around to care for them that they clustered in dooryards and gardens all over town; and now almost every home had one or more colonies hived in dry-goods boxes, kegs, or something else; but the women were taking the lead.

Honey Sandwiches

Chop together enough seeded raisins and English walnuts to make a large cupful, half and half. Add to them 1½ tablespoons of honey and 1 tablespoon of orange or lemon juice; mix well and spread between thin buttered slices of white bread.—Chicago Record-Herald.

Beginners and the Bee-Papers

I have a great deal of sympathy for beginners in not understanding technical terms, and the more advanced knowledge that comes from practise and experience. I can remember the time when all these things were Dutch to me, and of making some great, big blunders in managing my bees, owing to this ignorance. But after getting an "A B C of Bee Culture," and applying the knowledge gained therefrom in handling my bees, I soon learned to know the terms, and step along in the more advanced classes, which, in a graded school, would be like keeping back classes to bring up certain new members to a standard equal to those more advanced, in order to go on. I refer to the editorial on page 25.

MRS D. M. BROWN.

Cherry Hill, Pa.

Yes, like any other study there are things a little difficult to understand for the beginners in bee-keeping, even the terms used are not always self-defining. But do you really believe that you would be satisfied to have everything in every number of the American Bee Journal so written that the beginner with absolutely no knowledge of bee-keeping, should understand every sentence? Take this sentence: "An excluder is often used to prevent the queen from entering the supers." Probably not one reader in a thousand will have any difficulty in understanding what is meant; but to bring the sentence to the comprehension of such a beginner as has been mentioned, it would be necessary to expand the sentence somewhat after this style:

"An excluder, which consists of zinc having perforations about ⅛ of an inch wide, through which the workers may readily pass, but which prevents the passage of the queen, which is the only perfect female in the hive, and lays all the eggs, is often used to prevent the queen from entering the super, which is the compartment placed over the hive in which the bees may store the surplus honey." Now, suppose that that sort of thing were kept up, and in every number each word not fully understood by the rawest beginner should be fully defined, how long would you be willing to take such a paper?

☞ I can't say too much for the American Bee Journal. I can't keep bees without it. I wish it the best of success.—M. A. STONE, of Iowa.

That Black-Stockinged Little Girl

I note with pleasurable interest the comments on page 1034 (1906), under head of "Our Bee Keeping Sisters," of the picture of a "Black-Stockinged Little Girl." As I scan that criticism, it occurs to me that Miss Wilson should have been a lawyer. That "Doesn't it prove too much?"—if she had said nothing more, reveals what was disturbing the gray matter of her brain. The point was ingeniously made, and, had her hypothesis been correct, might have furnished a basis for an argument; but, the fact is, in taking the picture, I had no other motive than to present the young lady with a photograph of herself holding a frame of bees.

Now, right here, before I forget it, allow me to pay my respects to the Editor for the part he has taken in this matter. He made the question of "Black Stockings" prominent by entitling the picture. To be candid, I think he should be indicted for malicious mischief, and be sent up for life. Nobody can tell what a world of trouble this matter may cause me, for we all know that, to intimate to the majority of bee-keepers that bees are no more inclined to sting persons dressed in black than in any other color, is like flirting a red rag before an infuriated bull. It stirs up an immense amount of nevous energy, and I'm not the fellow to do anything of the kind if it can be avoided, but have my own convictions upon that matter from personal experience and experiment.

But to return to the little girl: When she came into the yard, I put a veil over her face to insure safety, and after going through the hive, finding the queen, etc., and the bees becoming quiet, I risked removing the hat for a snap-shot (as my kodak was near), the wearing of black stockings being a mere incident which I regarded as unimportant.

I am sorry to learn that the bees in the neighborhood of Marengo have a reputation such as is generally given them by those most intimately acquainted; it certainly is anything but flattering. As results follow cause, we are naturally inclined, especially where the results are unpleasant, to try to ascertain what the cause is. My bees are handled gently, neither tobacco in any form, nor intoxicating liquor of any kind used, neither do they give me, nor any one else, any trouble. It is true, they are thorough-bred 3 banders, but are no sleepy-heads by any means, for I could stir them up so that they would *go* for the whole neighborhood.

Not knowing just what the practise is in handling bees in the neighborhood of Marengo, it would be almost hazardous to offer advice, and especially gratuitous advice. Were one better acquainted with Miss Wilson, we might suggest as an experiment, that she secure a different sort of a helper. You know slight changes sometimes produce surprising results. For instance, some remove the queen, thinking to cure bee-paralysis; others paint the barn *red* and think the result favorable. "The woods are full" of good material—persons who have none

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of the habits obnoxious to bees—why doesn't she try the experiment?

Evanston, Ill. WM. M. WHITNEY.

Now, what can Mr. Whitney possibly mean? His bees are gentle "as a sucking dove," their gentleness due to the absence of tobacco and intoxicating liquor, and then he suggests that I get a different sort of a helper. If that means a helper not addicted to tobacco or liquor, would he designate it as a "slight change?" What can he mean? And why can't he express himself so that there will be no doubt as to his meaning? But, perhaps, we ought not to expect too much explicitness from one of Mr. Whitney's youthful years.

Smallest Honey Crop

Our crop of honey was the smallest I had ever had here, but the hives were well filled for winter, and the bees have wintered well so far. They had a good flight on Chistmas, and one or two in January. Some were flying Feb. 1.

MRS. WM. MIDDLECAMP.

Oshkosh, Wis., Feb. 5.

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

No Adulterated Arizona Honey

The following, taken from a circular from the Arizona Experiment Station, is of interest. I believe *very* little adulteration of honey would be practised in any of our Southwestern States for the same reason. An interesting fact is that I have seen very little honey in the Texas markets that might have been adulterated. If present high prices should prevail, however, it will be seen that such practise might be made profitable, from the adulterators' standpoint; but since the pure food laws are put to use there should be little danger even then. It is interesting, nevertheless, to know that we, of these "far-off" Southern States, should at least be so favorably located as to be safe from the ban of adulteration, even without pure food laws. Here is the item referred to:

"The adulteration of honey, in Arizona, is not commercially possible for the excellent reason that freight-rates so enhance the price of glucose and sugar, that these adulterants can not be profitably used. For instance, the average wholesale cost, laid down, of white sugar during 1902, was 4⅞ to 5⅛ cents a pound, and of a good grade of glucose was 4½ to 4¾ cents a pound; while the prices obtained by the honey associations for their product in car-load lots, were from 4½ to 5½ cents. This has been the commercial condition for years past, and while it continues, the fact that honey is from Arizona is sufficient guarantee of its purity. Water, indeed, might be mixed with an especially dry product, but fermentation would be too likely to punish such dishonesty."

Spring Feeding of Bees

Bees that are found short of stores in early spring need feeding as badly as for winter stores. Not only must they be furnished with food, but as brood-rearing begins the brood must be provided for.

There are many ways of feeding, but the time and the season, the weather and other conditions, must be considered, as, for instance, during midwinter cakes of hard candy laid over the frames above the cluster should be given. Then, again, during warm weather, and in the summer months, outdoor feeding of sugar syrup may be practised. Syrup of this kind, while it should not be fed in winter, can be given in the early spring, but on account of the cold weather it should be fed inside of the hives so that the bees may get to it at all times.

It is bad policy to feed outside early in the season, as much loss to bee-life is entailed by forcing the bees out when chilly weather still prevails, besides the wear and tear to the life of the bees while getting the syrup home from the feeder.

When it comes to the feeder to be used, we must agree with J. L. Byer, of "Canadian Beedom," that "truly, it might be said, of the making of *feeders* there is no end." (Page 72.) Some of them are all right, some not so good, and some feeders may suit certain persons while they would not suit others. For instance, the Alexander feeder is praised by many, while *I* could not use it satisfactorily, because there are at least a hundred different kinds of bottom-boards in my apiaries, to only a few of which this kind of feeder could be attached. And even with the right kinds of bottoms, the "hive-stands" will not always "fit."

An entrance feeder of the Boardman type was given a trial, but there is a good deal of danger from robber-bees, hence I do not think such a feeder advisable; indeed, the safest place to feed is within the hive, away from where any outside bees may get to the feed.

The Doolittle division-board feeder was used satisfactorily for several seasons, but there were two objections to it *for us*, although they might not be such for others. One was that it necessitated the removal of one of the combs from the brood-chamber, when inserting the feeder in place of it; and another was that the brood-chamber needed to be opened and the cluster of bees disturbed when feeding, and to ascertain the quantity of syrup in the feeder. This feeder was improved later by cutting away part of the top-bar entirely where only an auger hole was before, through which the syrup was poured.

There are several objections to the combined hive-cover and bee-feeder of H. A. Smith (page 72), for our Southern climate, at least. First, the expense of the cover when not used as a feeder. Of course, a feeder separate from the cover may make the expense of both as much, or perhaps slightly more, yet such a feeder could be stored away and sheltered from the weather, and not be handled every time the cover of a hive was taken off. But one of the main objections would be that such a cover would not stand our blistering sun and changeable weather conditions. It would soon warp and twist, or crack, and admit robber-bees. If made of heavier material the expense would be increased, and the extra weight to the cover itself would be quite an objection, in my mind.

I prefer using an empty shallow super over a bee-escape board, from which the escape has been temporarily removed, so the bees have free access above. With the regular hive-cover on top of the super a space is formed similar to that of the Smith feeder, in which are set several large butter-trays for the syrup. A bunch of excelsior is thrown into each tray to keep the bees from drowning, and I think this is a better and cheaper arrangement without the extra expense.

In place of the bee-escape boards I have used sheets of thick, heavy paper which can easily be obtained from furniture dealers, after it has been taken from the packed goods. Through each sheet, as large as the outside dimensions of the top of the brood-chamber, a hole is made about 1½ inches in diameter for the bees to pass through when it is laid over the top of the brood-frames. It is all-important to keep the warmth of the cluster concentrated below, hence the use of such a partition between it and the syrup fed above. It helps the bees a whole lot.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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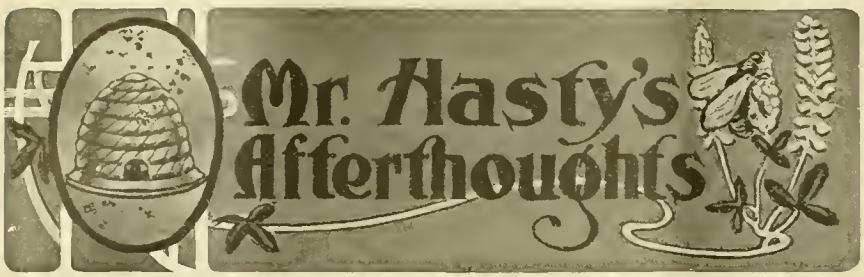


The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Preserving the Forests.

As to the latter part of his article on page 27, we may thank Prof. Cook for showing us the grindstone which we will have to put our noses on not far in the future. Individual initiative is sweet to us, but we can not continue indefinitely to be such utter fools in the matter of forest destruction as we have been. The hold-up will be a law which will say: No cutting of any considerable number of trees (no matter to whom they belong) without a permit from the State Bureau of Forestry; and no permit without satisfactory assurance that the forest area is to be kept good by replanting. I suppose it will eventually be found best to divide each large forest which occupies level, arable ground into a large number of small sections—cut one section at a time, cut it clean, and replant—either with or without a few years of cultivation. Very much more lumber can thus be raised on the same area than in Nature's higglety-pigglety way—and probably more than in any mere modification of Nature's way. (If this is objected to as not bee-matter, I'll claim that basswood for sections is what we're after.)

Chickens Eating Young Ants.

The chickens of Pacific Coast "Murmurer," that we hear of on page 16, surprise me. I had supposed that the young of ants, so long as they remain white, are destitute of the biting acridity we are so familiar with. That might well prevent almost any creature from wanting to eat them. I had supposed they were regularly raised as food for high-priced young birds. Quite a backset to find chickens that won't eat them. Still, I can't say off hand that I ever *saw* chickens eat them. And, scratching out ants in a natural way, chickens would probably find an adult ant clinging on to each pupa. They might honestly enough decide that the white one was not good enough to pay for eating a black one along with it.

Wintering Bees in a Trench.

Mr. Whitesides found a few colonies to winter well in a trench. Couldn't be "aisy" till he had crowded some into a trench two tiers deep. That time the lower ones all died. The look of that sort of thing is that the number of bees was too great for the amount of air percolation the pit afforded. The befouled air was heavier than the rest, and so the lower colonies naturally got an overdose of it. Page 13.

Home-Made Hives, Etc.

A factory-made hive with a quarter-inch bottom-board—it does seem as if stale vegetables and things ought to be flung at it—if not at its maker. And Dr. Bohrer's experience, that even carpenters do not make hives sufficiently exact in dimensions unless one watches them closely, is worth noting. We'll agree with him as to the rest. Occasionally men make their own hives profitably, and very well. But the usual rule is that the work is poor, and dimensions not exact enough. Page 28.

Enduring Bee-Stings.

Mr. Wm. W. Green seems to be a rare bird—in his ability to go through so frightful a case of bee-poison with almost no treatment. Better for people like him not to keep bees. But his notes ought to be valuable for comparison with other bad cases—decidedly more valuable on account of his abstention from treatment. That 6 hours after the stinging the skin exuded odor which suggested bees is one of the points of interest. Page 28.

Short on Stores and Less Pollen.

Mr. McGuire thinks Paul's "Lay aside every weight, and the sin," etc., is good for us. If the "weight" is useless fixtures, I suppose the "sin" would be useless manipulations—or is the habit of writing for the bee-papers the sin? Not sure the application is a good one. At least, he evidently doesn't care for the "cloud of witnesses," but only for the coppers.

At first I thought it was a mere notion of his that colonies short of stores brought in smaller pollen-loads. After a while a reason why it should be so occurred to me, and then I was more ready to think it might be a fact. Where there is plenty of honey at home very likely a bee going out for pollen would take some along to be used in making up the pellets. Where there is famine at home the gatherer would go out empty, and trust to finding in the fields some nectar to be used in making the pollen cohere. If little or no nectar was to be had in making up the pellets would be difficult, and they might be small as a result. Page 28.

Honey from Oak-Galls.

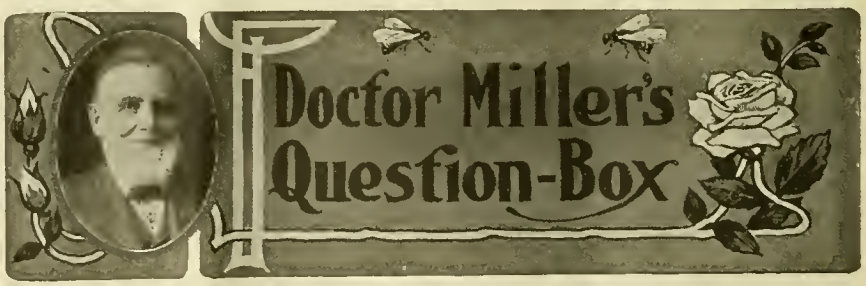
Wonder if it's always the case that honey from oak-galls is too dark and poor for human eating, as Prof. Scholl finds. It half-way seems to me that some one has reported eatable honey from that source. Page 29.

Gloves and Bees.

"Between gloves and defeat, wear gloves." Don't think I ever saw that side of the argument better put than Miss Trevarrow here puts it. Some might add, And get a better tempered strain of bees as soon as you can. Page 30.

Political "Bee-Keepers."

And that Murmurer, with most atrocious parody of logic, wants to call the politician a bee-keeper because he has a bee in his bonnet! Why, the bee in the bonnet is rampageously trying to keep the man. Man can't keep the bee till he can get the bee away from the region behind his ample ears. If the politicans were all bee-keepers we'd have had all the legislation we could make any use of long ago. Page 35.



Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Colonies in Hives Under Snow

On page 67 Mr. Doolittle says, "If the hives are buried in snow .... the obstruction should be removed, for an occasional winter flight is a great benefit." Would it be an advantage to remove the snow in a country where a chance for a winter flight is almost never known? I have experimented to a limited extent with 7 ways of handling the entrances, and have come to the conclusion that I lose less bees during the winter with the entrances closely covered with spruce boughs and the hives buried in straw or snow. In one instance, a colony came through all right after having been buried for over 2 months in 6 feet of snow. I have not been able to come to any conclusion as to which will build up best in the spring. P. E. Island.

Answer.—For a certain time there probably could be nothing better than to have a colony covered with 6 feet of snow or more.

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But I think some cases have been reported where the bees were kept so warm and for so long a time that they took to brood-rearing and suffered badly. Your idea of spruce boughs seems a capital one. With enough of these I wouldn't feel anxious, even with an imprisonment of a good deal more than 2 months.

Feeding Bees in Box-Hives

I am a beginner with bees. I bought 26 colonies from a neighbor, mostly in box-hives. When I brought them home some seemed to be very light, and I think they need to be fed before bloom comes.

1. How can I tell if they need to be fed?
2. Is there any danger of feeding too long in the spring?
3. What is the best way to feed bees in box-hives? ILLINOIS.

ANSWERS.—1. You can't tell very well; but you can make something of a guess at it by weighing, or hefting, the box, and seeing how much heavier it is than an empty box of the same kind would be. If it doesn't weigh about 40 pounds more than the empty box, then it will be a good thing to feed as soon as a warm day comes in spring. If it weighs only about 20 pounds more than the empty box, better feed right away. But much depends upon what is present. If the hive is an old one, well filled with old combs, and a lot of pollen in it, it should weigh much heavier than one with a light afterswarm that has not much in the way of combs or pollen.

2. No, unless you feed so much that the queen has not room to lay.

3. The best way is to put some combs of honey under the hive. If there is not room for that—and probably there is not—make a shallow box or rim 2 inches or so deep to put under the hive.

Putting Bees Out of Cellar—Medium-Strong Colony—Controlling Increase—True Thermometer, Etc.

I am wintering 50 colonies of bees in the cellar with the hive bottom-boards off. When I put them out, how can I keep them from flying out? The hives are piled on top of each other.

2. I have no wind-break or shade at home. Would it pay me to move my apiary 60 rods from home and have both?

3. What is a medium strong colony in an 8-frame hive on April 1? or, in other words, a colony that is strong enough to hold its own?

4. I run my apiary for comb honey only, and wish to control increase. With reference to your answer on page 74, should I put the super of sections on top of both stories, or between them?

5. Where can a true thermometer be purchased? I have 3 which I hung up side by side, and they stood at 4, 7, and 12 degrees below zero, Feb. 3.

6. Has Iowa any foul brood law, or any bee-keepers' association? IOWA.

ANSWERS.—1. If in good condition, and carefully carried out, they are not likely to want to fly. It will help matters if you have doors and windows of the cellar wide open to the outdoor air the night before carrying out. If, however, the bees are not quiet enough, blow smoke under to quiet them.

2. I don't know. It depends a little upon how much you care yourself for shade to work in, and how much also for the inconvenience of having them so much farther away. As you winter your bees in the cellar it would make no difference in wintering. It's a toss-up which way to decide.

3. A colony that has 2 or 3 frames half filled with brood and plenty of bees to cover them the first of April is likely to hold its own all right, but it would need to be twice as strong as that to be called medium.

4. I suppose you refer to the last part of my answer to Minnesota. That plan—putting the queen down into an empty story under an excluder—is only used for extracted honey, for you understand that the story of brood that is put over the excluder will be filled with honey just as fast as the cells are emptied by the emerging of the young bees. But if you wish, you could get such a colony to do some work also in sections. In that case, I should put the super of sections between the two stories about 10 days after putting the queen down, perhaps raising the sections on top after the bees were well started in them.

5. I don't know. Perhaps in the larger places they are to be had at a higher price that are entirely accurate. Isn't there in your neighborhood a volunteer Weather Observer to whom the government has furnished an accurate thermometer? If so, you could compare your thermometer with his. But it doesn't matter such a great deal whether your thermometer is accurate or not, if you want it to use in the bee-cellar. All you have to do is to try to find out at what degree by your thermometer your bees are most quiet, and then try to hold the cellar at that temperature. And that's what you'd have to do anyhow, even with an accurate thermometer.

6. I think not. Good thing if Iowa bee-keepers would stir in the matter.

Transferring Bees—Italianizing—Requeening—Feeding Common Syrup

1. A has 20 or 25 colonies of bees that he wants to get rid of so that he can have the combs and honey that are in the brood-chamber to put his first swarms in so that they can go to work at once. Can B take the bees, transfer them to Langstroth hives, and feed them until honey-gathering season comes? If so, how? and how soon? (A wants them taken away as soon as practical.) B can handle the bees all right.

2. Would one good Italian colony furnish drones enough for 60 or 75 colonies by putting drone excluders, or drone-traps, on all of the hives? If so, how? Would answer No. 4 to Pennsylvania, page 389 (1906), answer in this case? There is no apiary near me, and practically no timber, and I want to Italianize my apiary. I have *one* good, strong Italian colony.

3. How should I introduce the queen-cells? By cage? If so, how, and what cage should be used?

4. Would you requeen at the beginning of honey-flow, or later in the season?

5. My bees are hybrids and brown bees. The brown bees are large and comparatively quiet. I do not think they are the little black bee I hear so much about. What would you call them?

6. I have half a barrel of common syrup that is of no use to me. Would you let the bees have it in the spring? If so, how, and at what time? MARYLAND.

ANSWERS.—1. It's a bad time of the year for such business, but it can be done. As soon as bees fly every day, take out all the brood-frames, leaving the bees on empty frames or foundation, put on a Miller feeder with sugar syrup, and the bees will do the rest. But that is objectionable in two ways: It is a loss of brood at a time when brood is of the most value; and it is very objectionable to have the dead brood in the combs when they are to be used for swarms. So you must manage with an excluder. Put all the frames into the upper story over the excluder except one frame of brood that you will leave in the lower story with the queen. In 2 or 3 days, or as soon as the queen has begun laying in one of the new frames below, put into the upper story the frame of brood you left below. Then in 3 weeks all the brood will be out above, and you can remove the frames. I am taking it for granted that the bees are on movable frames. If they should be in box-hives, then the bees must be drummed out, so as to be sure to get the queen out, then put into the lower story, and the box-hive put over the excluder and left there 21 days.

2. Yes, a single colony can furnish enough drones for 75 colonies or more, providing it is strong enough and has enough drone-comb, say the equivalent of half a frame or more. The answer given to "Pennsylvania," to which you refer, is all right for you. The only difference made by your distance from timber and other bees is that you are less likely to be troubled with outside drones.

3. Generally a queen-cell will be accepted all right by any colony that has been queenless 2 or 3 days, or as soon as it begins building some queen-cells of its own. Fasten the cell centrally on a brood-comb by means of a hive-staple. Lay the frame on its side, lay the cell in place, either horizontally or with the point downward, then put the staple over the cell, not with the cell in the middle of the staple, but at one side, that is, one leg of the staple is touching the cell, and this leg is pushed in only far enough to hold the cell, while the other leg is pushed in deep. It will, however, make the cell a little safer against being torn down by the bees if put in a Miller introducing-cage, and the cage can be held in place by running a slender wire-nail or a very large pin through the cage into the comb.

4. You'll probably do some of both; for if you begin at the beginning of the honey-flow, there will be some failures that will be made up later on.

5. If I were in your place I think I should call them large brown bees. Occasionally such bees are spoken of, although they probably do not differ much from ordinary brown or black bees. But there is no question that some black bees are better than others.

6. Yes, there is generally a time in the spring when bees can fly every day but get little or no nectar. At such a time it will be well to feed such syrup. Either feed in the hive with a Miller or other feeder, or if you are situated where neighbor bees will not get the lion's share you can feed in the open air in shallow dishes with cork-chips on top, or some other arrangement to keep the bees from drowning. Open-air feeding may be a little the best for the bees—more like working in the field.

The Miller Frame—T-Super, Etc.

1. Kindly give me a description of the Miller frame so that I can make them or have them made; or can they be purchased of dealers?

2. How is the foundation fastened to the top-bar?

3. How thick should the follower be in order to hold the frames solidly together?

4. Are the T-supers just like yours sold by dealers?

5 I have some new supers made 5 inches deep. Can they be used for T-supers? MICHIGAN.

ANSWERS.—1. I think you will get Miller frames by ordering of the leading manufacturers; but here is how they are made, as copied from my book, "Forty Years Among the Bees:"

"The frame is of course of the regular Langstroth size, 17⅝x9⅛. Top-bar, bottom-bar, and end-bars are uniform in width, 1⅛ inches throughout their whole dimensions. The top-bar is ⅞-inch thick, with the usual saw-kerf to receive the foundation, and close beside this is another kerf to receive the wedge that fastens in the foundation. The length of the top-bar is 18⅝ inches, and ⅞x9-16 is rabbeted out of each end to receive the end-bar. The end-bar is 8 9-16x1⅛x⅜. The bottom-bar consists of 2 pieces, each 17⅝x⅛x¼. This allows ⅛-inch between the two parts to receive the foundation, making the bottom-bar 1⅛ inches wide when nailed.

"The side-spacing, which holds the frame at the proper distance from its next neighbor, is accomplished by means of common wire-nails. These nails are 1¼ inches long and rather heavy, about 3-32 inch in thickness, with a head less than ¼-inch across. By

American Bee Journal

means of a wooden gauge which allows them to be driven only to a fixed depth, they are driven in to such a depth that the head remains projecting out a fourth of an inch.

"Each frame has 4 spacing-nails. A nail is driven into each end of the top-bar on opposite sides, the nail being about an inch and a half from the extreme end of the top-bar, and a fourth of an inch from its upper surface. About two and a fourth inches from the bottom of the frame a nail is driven into each-bar, these nails being also on opposite sides. Hold the frame up before you in its natural position, each hand holding one end of the top-bar, and the two nails at the right end will be on the side from you, while the two nails at the left end will be on the side nearest to you.

"The object of having the nails so heavy is so that they may not be driven farther into the wood when the frames are crowded hard together. Once in a great while the wood is split by having so heavy a nail driven, and if such a nail could be obtained it would be better to have a lighter nail with a head a fourth of an inch thick, so that it could be driven automatically to place without the need of a gauge, and without the possibility of being driven farther in by any amount of crowding.

"The end-spacing is done by means of the usual frame staple, about $\frac{3}{8}$ of an inch wide. The staple is driven into the end-bar, immediately under the lug of the top-bar. This lug being only half an inch long, there is room for a bee to pass between the end of the lug and the upper edge of the hive-end, so no propolis is deposited there."

2. I prefer what is the usual way at the present time, as suggested in the foregoing description, the foundation being received in a saw-kerf and wedged there; but it can be fastened in any other way.

3. Strictly speaking the frames are never held *solidly* together. They are crowded close together against one side, but there is left a loose space at the other side between the dummy and the side of the hive. No possible harm can come from this except that it allows a little movement when hives are hauled over very rough roads, but I have never had any trouble in that way. The dummy is 5-16 thick.

4. I think some are, and some not. If you say in ordering that you want the same as mine, I think you would get them.

5. Any super consisting of 2 sides and 2 ends without top or bottom can be made into a T-super, the difficulty of adapting it depending upon its measurements. A super 5 inches deep would be for sections $4\frac{3}{4}$ inches in height; but it might be cut down to fit a shallower section, and strips could be nailed on to make it fit a deeper section.

Starting With Bees

In July, 1903, while we were drawing in hay, our mother called to us that a swarm of bees had settled on the end of our old barn used for an implement house. Our uncle had left a number of bee-hives in it the winter before, and it was these that attracted the bees. When we came up from the field we examined them as best we could, and found they had settled in one of the boxes. We left them alone until next day, when one of us went over for our uncle, who came and brought a veil, smoker, and all necessary things with him. We then got the bees out of the barn into our orchard. This was our start in bee-keeping. In the fall of 1903 we began feeding the bees, and in this way we succeeded in wintering them all right.

In the spring of 1904 we took them out of winter quarters, and during that summer our apiary increased to 2 colonies. We got no honey that year, but the bees had plenty to keep them over winter.

In the spring of 1905 we again moved them to the summer stands. On examination we found them in pretty bad shape. The hives had been too damp, and the bottom of the hives and some of the combs were blue-molded. Nevertheless, the bees were alive. We now began to enquire about how to handle bees. Before this we had acted on our own judgment, but we knew very little about that kind of business. That summer our apiary increased to 3 colonies, and we got enough honey for our own use. We thought we were doing not too badly. We did not have to feed them that fall. In the spring of 1906, when we examined them we found them all right, but very cross. We were beginning to learn a little about them now, and that summer we increased our apiary to 5 colonies, and got about 60 pounds of honey. We sold about 30 pounds and left them enough to winter on. That fall we bought 6 colonies and an outfit for $22. We had to feed the new colonies. We doubled our old colonies down to 3 colonies, and so this winter we have 9 colonies. LYNN BROS.

Molesworth, Ont., Jan. 23.

Bees Did Fairly Well

My bees did fairly well last summer. I started in with 6 colonies, increased to 12, secured about 300 pounds of comb honey (about half will grade "strictly fancy"), and my hives were put into winter quarters *very heavy* (55 to 65 pounds per colony).

One colony in particular did what I considered extremely well, filling 6 supers (24 sections each) and working a little in the 7th super. Besides being such great workers, these bees are very beautiful and gentle. I tried hard to rear a few queens from this particular queen, but succeeded in getting only one hatched, and she was lost while taking her flight from the hive. If I can keep the orignal queen through the winter, I am going to try again. E. H. UPSON.

Noble Co., Ind.

Honey for Curing Bronchitis

We found out last year that honey is a first-class article to cure bronchitis. During the last 2 years my father and mother have suffered greatly from bronchitis. They spent considerable money doctoring, and the truth is our family doctor was at his wits' end to know what to do for them, and matters looked pretty blue until a neighbor came along and told father to take every night, before going to bed, 2 good tablespoons of honey; add 2 tablespoons of whiskey, and put into a good-sized tea-cup and fill with hot water, and drink it hot before going to bed.

Well, in 2 nights he commenced to feel much better. He kept it up for 8 or 10 nights, and the bronchitis was settled. When he had it worst he could get no sleep at night, and mother was as bad off, but now both of them are well.

As soon as father got well, he went down to the doctor and told him what he had done. The doctor had another patient who had bronchitis very badly, and he was not making any headway towards curing him. He was an honest doctor, so he told his patient how sick father and mother had been; that he did not know what to do for them, and what they had used to cure themselves; that this patient should try honey for his bronchitis. He did so, and a dollar's worth of honey consumed in the family and used as a medicine put their bronchitis out of business. I do not think they had to use the whiskey the same as we had to. I would very much like to see this thing tried further, with the honey alone, without the addition of any whiskey whatever; but as I have no more bronchitis around, I can not do any more toward trying its virtue, but it may be the means of helping some other afflicted person. I would like very much to know if honey alone would have as good effect in most cases as the honey and whiskey, because I am not much in love with whiskey, or anything of its nature as a beverage; but honey is a No. 1 medicine for that kind of trouble.

Galt, Ont., Jan. 19. W. D. HARRIS.

[We will have to refer the above request to Dr. Miller for an opinion.—EDITOR.]

Hardest Winter Years

The bees seem to be all right in the cellar. The winter was very severe up to the last few days—the hardest one we have had for years.

The American Bee Journal comes very regularly, and I can not say too much in its praise for the helpful information it brings. I feel that I would be nowhere in bee-keeping without it. ROBT. MCCRADIE.

Hendrum, Minn., Feb. 13.

Very Cold Weather—Need Faith

We are having very cold weather here at this date, the mercury having dropped below zero. In some parts of Pennsylvania it has dropped 26 degrees below, which is very hard on bees in this part of the country, and I fear there will be some very severe losses around here.

My bees, so far, are wintering nicely, both in the cellar and outside. My honey crop for 1906 was not extra good, although I got more than my neighbors did. They seem surprised that I get more honey than they do, and ask me how I do it. I tell them to subscribe for the American Bee Journal, as I *credit my success* to it. But they say it is useless to subscribe for a bee-paper, for they know all about bees! So I let them alone in their ignorance.

I am in great hopes we will have a good season this year, for a bee-keeper must never lose faith. WILLIAM H. BOECKEL.

York, Pa., Jan. 29.

Home Hive-Making

I have read with much interest the different articles on hives made from "store" boxes. You will notice that I have used the word "store" instead of "dry-goods" boxes, and now comes the reason:

Nearly all dry-goods boxes are made from lumber from 3 to 8 inches wide, and all tongued and grooved together like flooring. Such lumber is not suitable for hive-bodies or supers, but it is good for bottom-boards and covers when well dried and firmly nailed to cross-pieces at each end; and they are not so apt to warp and get out of shape as when made from a single board.

Now for the hive-bodies and supers: The boxes I am about to describe are sometimes hard to get by any one living in the country or small towns, but in a town of 4000 or 5000 or more, one should be able get all he wants by keeping his eyes open.

The boxes in question are known as "hat-cases," and will be found in gent's furnishing stores. These boxes are always white pine, the sides of $\frac{3}{8}$-inch stuff, planed on one side, and are often as much as 12 inches wide, and come in for a great many uses in the apiary or chicken-yard. The end-boards are one-inch boards from 36 to 45 inches long, and from 12 to 16 inches wide, and are usually quite free from knots, but I always look the boxes over and reject those that are defective.

I pay from 10 to 15 cents each for such boxes, and by a little watchfulness can get all I want. I made 11 10-frame Langstroth hives last winter at odd times from such boxes, and after they are painted they look just as good as any factory hive.

Last week I made one 14-frame hive after the Ferris plan, for 2 queens, and I got it all but the top out of 4 end-boards. The cover will be made later as stated above.

This article is intended only for those who have plenty of time, and are handy with tools. I will tell later how I made an outside case for a super-cover from the $\frac{3}{8}$-inch boards of the hat-cases. F. O. FOWLER.

Marietta, Ohio, Feb. 10.

American Bee Journal

Standard-Bred Italian
—FREE—
PREMIUM QUEENS

We are booking orders now for those Fine **Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

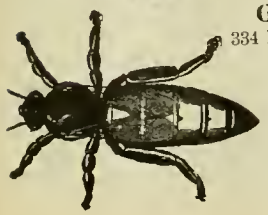
George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OOLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the beeline. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.



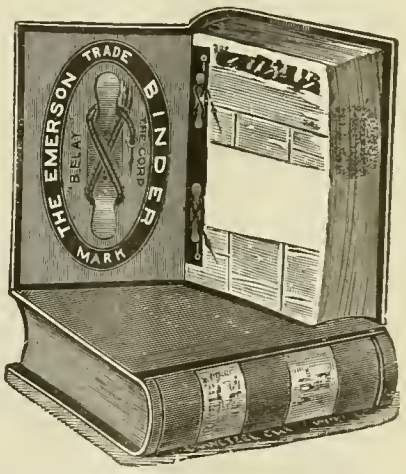
"Langstroth on the Honey-Bee"—the well-known bee-book revised by the Dadants—has just passed into another edition. There have been some 75 pages added to it, and the whole work brought down to date in every respect. It is certainly a fine book, and should be read by every bee-keeper. It is really a classic. To become acquainted with the great Langstroth through the reading of his book is no small thing. Other bee-books are good, but there is only one "Langstroth on the Honey-Bee." The latest revised edition will be sold at the same price as the one preceding, which is $1.20, postpaid. We still have a few copies of the old edition on hand, which we will mail at 90 cents each, if preferred, so long as they last. We club the new edition of this book with the American Bee Journal for one year—both for $2.00. So long as we have any copies left of the old edition, we will send it with the American Bee Journal one year—both for $1.80.

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.
Samples of Honey analyzed. Correspondence solicited.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the



Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

Please mention Bee Journal when writing advertisers.

American Bee Journal

Money Earns Money

only when invested in a money-earning business, and I believe there is no good, safe and honest business earning more money on the capital invested than the subscription-book business.

DO YOU BUY BOOKS?

This is a book-buying age. A house without a library is no longer a home, and most of the home libraries in this country are purchased as a result of direct solicitation.

BUT FEW KNOW

that during the last six years nearly 150,000 sets of "*Modern Eloquence*" have been sold for $7,500,000.00; that "*Stoddard's Lectures*" have been placed in 250,000 American homes for $12,000,000.00; that 300,000 sets of the "*Century Dictionary*" have been sold for $21,000,000.00; that more than 560,000 sets of "*Britannica*" have been sold in the United States alone for over $44,000,000.00; or that the sale of these books still continues. But few know what the profits are on this business. How much of it did you receive?

A MODERN PUBLICATION

of the highest class, which in sales and profits is destined to exceed the above records, is now being made and sold. This is evident from the actual results now being obtained, although the sale was begun less than six months ago, and you can have full particulars by sending your name and address on a postal card, costing

ONLY ONE CENT

Let me mail you a letter telling all about this record-breaking, modern American publication; how several hundred eminent American specialists are making it; why the American people find it not a luxury but a necessity, and *what a few dollars will do*—not over a hundred—if now added to the present capital.

MAKE YOUR MONEY EARN MONEY

Write me to-day, as this is a present opportunity. Address,

W. B. GILBERT

28 Jackson Boul., CHICAGO, ILL.

8A4t Please mention the Bee Journal.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. Catalog Free.

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

Write for prices on *Finest Extracted Honey*. Certificate guaranteeing purity with every shipment.

SPECIAL DISCOUNTS on early orders for **Supplies...**

WALTER S. POUDER

513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

Mention Bee Journal when writing

Metal Mothers

Complete fireproof Hatching and Brooding Plant for $7.50. 2 quarts oil will hatch and brood 50 chicks Our nest system is the latest discovery. Full line Poultry Supplies. Lowest prices. FREE Catalog. Write today CYCLE HATCHER CO., Box O, Keeseville, N. Y.

Moore's Long-Tongue and Golden —QUEENS—

Fine Select Untested Queens, $1; 6, $5; 12, $9. Tested, $1.50; 6, $8. Best Breeders, $3 50. Safe arrival guaranteed. W. H. RAILS, Orange, Cal.

9D18t Please mention the Bee Journal.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,

2Atf OSWEGO, ILL. R.D. 1.

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

O. P Pilling & Son Co., Arch St., Phiiadelphia, Pa.

Mention Bee Journal when writing.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,

45Atf KNOXVILLE, TENN.

Mention Bee Journal when writing.

Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Send for free Catalogue.

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made. GEO. H. STAHL, Quincy, Ill.

Mention Bee Journal when writing.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.

M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

Mention Bee Journal when writing.

For Sale

Two bushels of SWEET CLOVER SEED, hulled—$12 takes it, sack included, F. O. B. Carbondale. 1906 crop.

8A2t John Weir, Carbondale, Kan.

Mention Bee Journal when writing.

Best No. 1 Sections per 1000, $4.00; No. 2, $3 40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.

6A14t Please mention the Bee Journal.

WE WILL SAVE YOU MONEY ON BEE-SUPPLIES

The falconer Goods are acknowledged the FINEST. At Factory Prices here in Cincinnati. Let us Figure on your wants for this Season. Beeswax wanted at 31c cash, or 33c in trade, delivered here. (Send for our Catalog.) THE FRED W. MUTH CO.

7Atf 51 Walnut St., CINCINNATI, OHIO.

Mention Bee Journal when writing.

EVERGREENS

Mention this paper.

Nursery grown, hardy everywhere. All sizes for all purposes, lowest prices. 50 bargain lots, first class, prepaid $1 to $10 per 100. Also Nursery grown Forest Trees.

FREE:—One beautiful Black Hill Spruce to every customer. Send for free Cat. and Bargain Sheet.

D. Hill, Evergreen Specialist
Box 15. Dundee, Ill.

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American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of BEE-SUPPLIES OF ALL KINDS.

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]

Headquarters for Bee-Supplies

ROOT'S GOODS

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8 c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.

WM. A. SELSER.

NEW YORK, Jan. 16.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Feb. 9.—The demand for extracted amber honey has brightened in the past 3 weeks. Amber honey in barrels at 6½@7½c, according to the quality and the quantity purchased. Fancy white extracted honey selling at 8@9c in cans. Comb honey is a drag on the market, fancy selling at 14@16c. Beeswax, 32c. for choice grade. THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 14.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $33 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

C. C. CLEMONS & Co.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

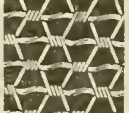
TEXAS QUEENS

The Famous Honey-Producers will be ready early in April.

Carniolans, Italians and Goldens

Equal to the best, regardless of price. Prices: Tested, each, $1.00; dozen, $10.00. Untested, each, 50 cts.: dozen, $5 50.

6Atf GRANT ANDERSON, Sabinal, Texas.



FENCE Strongest Made

Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

Mention Bee Journal when writing.

WANTED — BEESWAX

Will pay market prices and make remittance day wax arrives.

Colorado Honey-Producers' Association
9Atf DENVER, COLO.

Mention Bee Journal when writing.

HONEY AND BEESWAX

When consigning, buying or selling, consult

R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

WANTED TO BUY AT TOP PRICES

WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.

Catalog Free

29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Mention Bee Journal when writing.

QUEENS By uniting swarms from 100 colonies **NUCLEI**

I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1 75.

4A13t R. M. SPENCER, Nordhoff, Calif.

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"It is continuous advertising that impresses the public with the stability of a firm."

Our Discounts on

BEE-SUPPLIES

are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them? Have you read our Catalog?

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
Catalogs issued in English or German.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken

265 & 267 Greenwich Street
NEW YORK, N. Y.

Mention Bee Journal when writing.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year MARCH 7, 1907 Number 10

AMERICAN BEE JOURNAL

SOME MORE INTERESTING SNAP-SHOTS (See page 186)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discnunts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
13 " 10	"	500 " ...10	"
26 " 20	"	1000 " ...20	"
52 " 30	"	2000 " ...30	"

These rates are subject to either time or space discounts, at choice, but not both.
Reading Notices, 25 cents, count line, subject to the above discounts.
Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Associatinn.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the ublishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards
are just the thing.
We send them by Return Mail

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

As most of our readers know, we have got-tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to otner makes?
Because the bees like t best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next aeason for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ✻ POLITICAL ✻ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

Pure and Selected Italian Queens

Sent direct from Bologna (Central Italy.)

Address, EXTENSIVE APIARIES.

ENRICO PENNA, San Ruffillo, Bologna, Italy.

1907 Price-List for America:

	1 Queen	12 Queens
April and May	$1.90	$21.60
June and July	1.80	20.40
August and September	1.60	19.20

NOTICE.—Mr. Doolittle's "Scientific Queen-Rearing" is my guide in rearing my queens. Only queens of the highest type are sent to purchasers. In September and October I can send also Italian Queens of common bees at $1.30 each.

CONDITIONS—Cash with orders. The queens that may die on the journey will be replaced provided they be sent back immediately in their boxes. Purchasers are urgently requested to give their address very clearly.

Mention Bee Journal when writing.

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

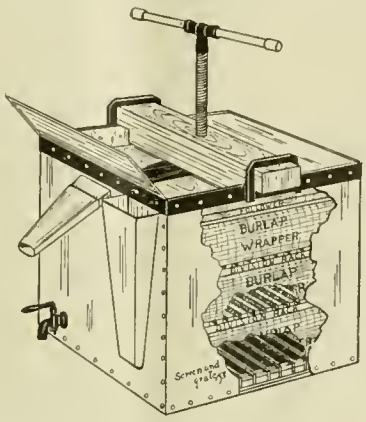
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST., CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

Mention Bee Journal when writing.

What Would Be

the condition of bee-keeping had not some ingenious bee-keeper invented and made the **Bingham Bee-Smoker and Honey-Knife?**

Bingham fills orders for thousands, every year, from the largest distributors of bee-keepers' supplies, who say they like to sell Bingham's Goods, because they always give satisfaction.

If you want the **BEST,** and can't get them handy, you can always get them direct from the **original inventor** and **sole manufacturer,** at regular prices, per mail.

It will always be a pleasure to know that you bought the Best from the original inventor of such a perfect tool.

Respectfully yours,

T. F. BINGHAM.

Farwell, Mich. 8E2t

Mention Bee Journal when writing.

TRAINLOAD OF BEE SUPPLIES
ENROUTE TO
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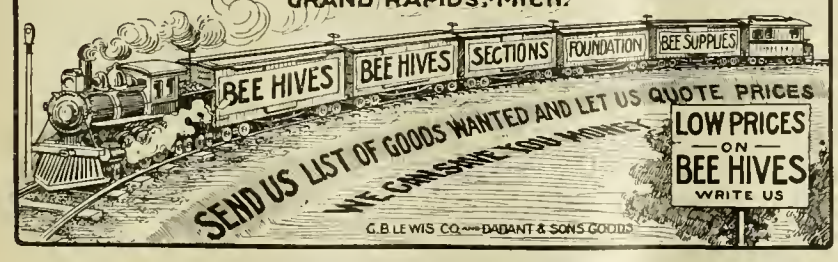

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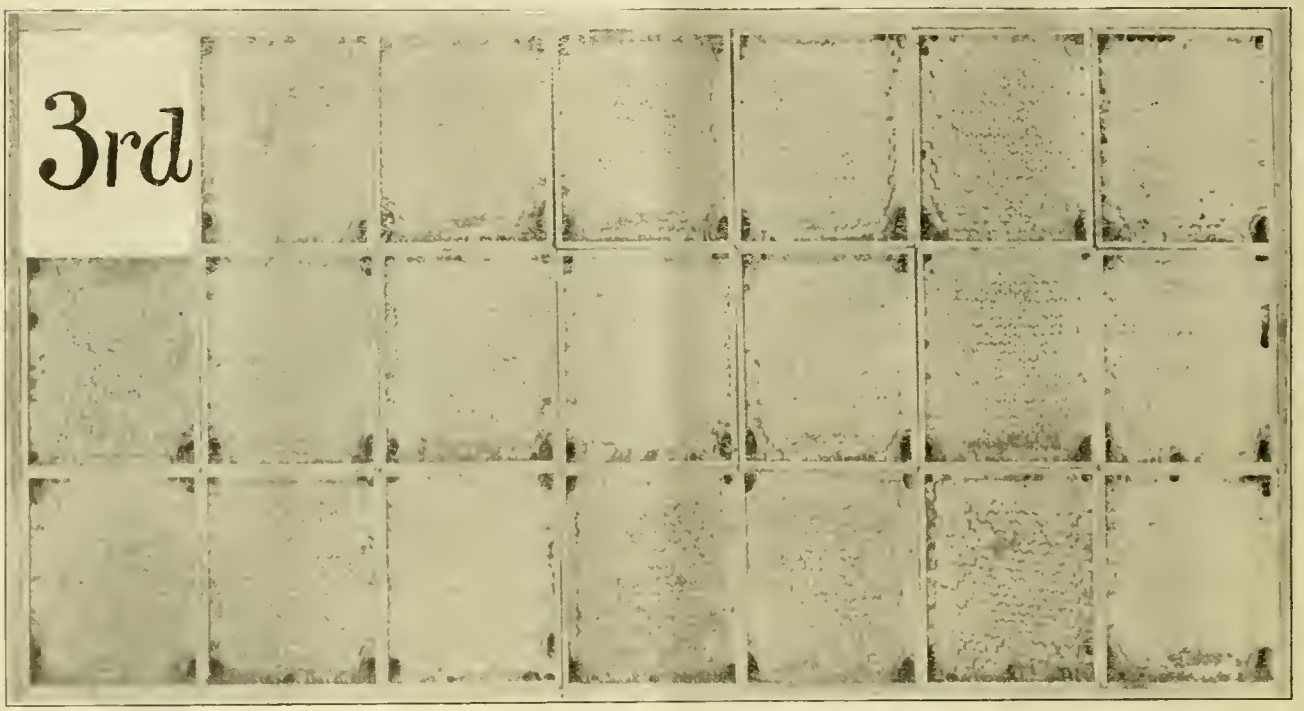

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GEORGE W. YORK, Editor | CHICAGO, ILL., MARCH 7, 1907 | Vol. XLVII—No. 10

Carrying Up Dark Honey

At the Ontario convention Mr. Alpaugh said that under certain conditions there was danger that bees might carry up dark honey from the brood-chamber into the surplus apartment; and Mr. Holtermann said he had known buckwheat to be thus carried up.—Canadian Bee Journal.

Working at Bees When Sweating

"Never work at a hive when you are sweating. Bees have a strong dislike to the exhalations of one in a perapiration."

That is the advice given in a foreign bee-paper. Some bee-keepers in this country, with hundreds of colonies, will smile broadly upon reading such advice. It would work best in a locality where the flowers secrete nectar only in freezing weather, if bees are to be kept on a large scale.

That Apis Dorsata Comb

Among other interesting paragraphs in "Gleanings from Foreign Fields," by W. K. Morrison, in Gleanings, is one which reads in part as follows:

The American Bee Journal has a paragraph calling in question the statement that *Apis dorsata* builds a comb with cells 2½ inches deep; but this is an actual fact, and the thickness of the comb is 5 inches and more where it is attached to the branch of a tree.....It is probably true the cells at the top of the comb are not 6-sided, because the stretching caused by the great weight of so large a comb, together with the weight of one whole colony of bees, would serve to draw the cells out of shape.

This undoubtedly refers to a paragraph on page 1045 of the American Bee Journal for 1906, the statement in question being, "They make a large 5-sided cell about 2½ inches deep." It is going rather far afield to defend a general statement of that kind by saying that there may be cells of that depth at the upper part of the comb. The defense of the 5-sided cell is somewhat ingenious, but is it possible that those bees make such bad calculations as to have their combs stretch at the top? Suppose they should stretch, would they be 5-sided? Take a piece of poultry-netting with 6-sided meshes and stretch it. If by any possibility you can stretch it so that there shall be one 5-sided mesh in 1000, then it will be time to talk about stretching the big bees' cells into 5 sides. Even then would it warrant the general statement that their cells are 5-sided?

"How Bees Make Honey"

Mr. M. M. Baldridge, one of the oldest contributors of the American Bee Journal, as well as one or two others, kindly sent us the following which appeared in the New York Tribune Farmer for Dec. 12, 1906:

How Bees Make Honey.

"A great many people think that bees get honey from flowers," says the Rev. Theodore Wood, in the London Tribune, but that is quite a mistake, for there is no honey in flowers. It is true that many flowers have sweet juices. But sweet juices are not honey; and before they can be turned into honey they have to be swallowed by a bee.

"When a bee goes out on a honey-making expedition it depends a great deal upon its tongue, which is very long and slender, and is covered all over with stiff little hairs, so that it looks just like a tiny brush. With this the bee sweeps out the nectar from the blossoms into its mouth, and goes on swallowing it, mouthful after mouthful, until it can swallow no more. But the nectar does not pass into its digestive organs and serve as food. It only passes into a little pouch, just inside the hinder part of the body, which we call the 'honey-bag.' When this bag is quite full, the bee flies off to its hive, and by the time that it arrives there the contents of the bag have been turned into honey!

"How this is done I am sorry to say I can not tell you; for nobody has ever been able to find out. If we examine the honey-bag through the microscope, we can find nothing to account for the change. It seems to be just a bag of tough skin, and nothing more. Yet, in two or three minutes after the nectar has been swallowed that wonderful change takes place. And if a bee is fed with sugar and water instead of nectar, it will turn the sugar and water into honey in just the same strange way.

"When the bee gets back to the hive with its load, it goes straight off to a honey-comb, pokes its head into one of the cells and pours out the honey through its mouth until the honey-bag is empty. Then it flies off again to obtain more nectar, and make a further supply. And so it labors busily on from the first thing in the morning till the last thing at night, never being away from the hive for more than a few minutes at a time, and always bringing back a fresh supply of honey in its wonderful little bag.

"Now, perhaps you wonder how it is that the honey does not run out of the cells as soon as the bees have filled them. For these cells do not stand upright, but lie on their sides; and if we were to lay an open barrel of treacle on its side, that barrel would very soon be nearly empty. As soon as the honey is poured into the cell by the bees, however, a kind of thick cream rises to the surface and covers it. And this cream holds the honey so firmly in position that not even the tinest drop oozes out.

"But when bees want to keep honey for some little time—when they are storing it up for use during the winter, for instance—they are not satisfied with this creamy crust, and are evidently afraid that the contents of the cell may dry up. So they carefully cover it in with a little waxen lid, which makes the cell perfectly air-tight. Next time that you have honey-comb for breakfast, if you examine it carefully you will find that nearly all the cells are closed in this curious way.

"Now, why do you think that the bees take the trouble to make so many small cells in which to store away their honey? Why do they not make two or three really big cells and keep it all in those?

"Well, the reason is that they know perfectly well that if honey is kept in a large vessel it very soon becomes thick, because the sugar in it forms into crystals; and in that case they can not feed upon it. But as long as it is kept in the small cells of the honey-comb it remains quite fresh and liquid, so that all through the winter they are able to use it as food."

As the foregoing appeared also in the London Tribune, we sent the clipping to Mr. Thos. Wm. Cowan, editor of the British Bee

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Journal, in London, asking if he knew of the "Rev. Theodore," and he replied as follows Jan. 15, 1907:

DEAR MR. YORK:—We do not know anything about the Rev. Theodore Wood, but I should think he belongs to a class of professional writers who undertake to write on any subject that they think would be popular, without knowing anything about what they are writing. We do not take any notice of all the rubbish that appears in the secular press about bees, and the Tribune is a paper that is apt to print sensational articles, and is not a paper that we place any reliance upon.

The Rev. Theodore Wood is like the other Rev. J. G. Wood, who wrote a book about bees, as he did on a variety of Natural History subjects, and who confessedly knew nothing whatever about the subject except that he read up in order to write the book. After this book was written and was published, he had a number of inquiries from readers asking him questions about bee-management, and not knowing anything about it, he applied to Mr. Hooker to help him in his dilemma. He admitted that he wrote the book only because he was commissioned to do so, and had read up for the purpose. We have a number of such people, and it is evident that the writer of the article you send is one of these. Such writers are not bee-keepers, and we often wonder at the American bee-editors attributing such rubbish to British bee-keepers.

We wonder what you would think if we attributed such articles as I enclose as a specimen of what American bee-keepers know on the subject. We would not print such rubbish! Yours faithfully,

THOS. WM. COWAN.

The item referred to by Mr. Cowan, in his last two sentences is this, which appeared in the Evening Telegraph, of Dublin:

OVERWORK AMONG BEES.

Lord Avebury should be interested to learn that to the snake story and the mosquito story American humor is now adding the bee-story. The Minneapolis Journal issues a warning against placing one's bee-hives too near an arc light. A veracious correspondent reports that his own bees mistook a light of this kind for daylight, and continued working until dawn, when they "turned in." In a few minutes the sun was out, and they instinctively returned to their labors, which continued until dusk. After a short respite the re-kindling of the arc light sent them staggering forth for another round of toil. "They were all dead by the end of the week—victims of overwork, every mother's son of them."

We will have to refer this "arc light bee-story" to our Minneapolis readers.

But we wish to thank Mr. Cowan for his complete reply. Undoubtedly both this and the "mother country" are producing some wonderfully vivid imaginations among some of their writers. If only the truth were adhered to, how much less of literary "rubbish" there would appear.

Virgin Queens and Drone-Comb

L. S. C. says in the British Bee Journal:

It is, I believe, Doolittle who maintains that, with a virgin queen, drone-comb is built so invariably that combs in process will show whether the colony has been dequeened. I do not know exactly upon what observation this is based, for I find that such bees build worker-comb, but there may be conditions other than the mere possession of a virgin queen which would overrule the matter.

Has Mr. Doolittle ever expressed such a belief?

☞ I believe that the American Bee Journal is one of the best papers that I have ever read.—G. S. LIGHTNER, Cedar Co., Iowa.

Miscellaneous News-Items

Our Front Page Pictures this week are something of a medley. Most of them were sent to us by Mr. D. H. Coggshall, of New York State, who attended the National convention at San Antonio last November. The pictures may be described as follows:

No. 1 represents Wm. A. Selser, Mrs. Coggshall, and Mrs. Ball, who, with Mr. Coggshall, were returning from an alligator hunt in the wilds of Florida. Mr. Coggshall is not shown in this picture.

No. 2 is said to have been one of the "speakers" at the National convention in San Antonio. If such was the case, he did his "speaking" outdoors. There were many of his kind on the streets of San Antonio. He seemed to be a very useful "citizen."

No. 3 shows 2 children who seem to be somewhat "colored." There are quite a number just like them in San Antonio and in many other parts of the South.

No. 4 shows the oldest cathedral in San Antonio, and also one of the city plazas or parks. This is a very pretty spot. We had the pleasure of walking through it and also entering the ancient cathedral.

No. 5 represents Mr. O. O. Poppleton in his apiary of "Long Ideal" hives. He was for a long time an extensive bee-keeper in Iowa, but some years ago moved to Florida, where he is perhaps the largest bee-keeper now in the State. We have had the pleasure of meeting him at several National conventions. He is a most genial man and an excellent bee-keeper.

No. 6 shows a part of one of Mr. D. H. Coggshall's New York State bee-yards in winter quarters. From this apiary he has obtained as high as 12,000 pounds of extracted honey in a single season.

To Bee-Keepers of Indiana:—Mr. Walter S. Pouder, of Indianapolis, has sent us a copy of House Bill No. 637, recently introduced in the Indiana Legislature. Bee-keepers of that State are urged to write to their State Representatives and Senators asking them to vote for the Bill when it comes before them. It is as follows:

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1.—Upon the recommendation of the officers of the Indiana State Bee-Keepers' Association the Governor may appoint for a term of 2 years a State Inspector of Apiaries. Such Inspector shall, when notified of existence of a disease known as foul brood among apiaries, examine all such as are reported, and all others in the same locality, and ascertain whether or not such disease exists, and, if satisfied of its existence, shall give the owner or person who has care of such apiaries full instructions as to manner of treating them.

SEC. 2.—Within a reasonable time after making such examination the Inspector shall make another examination thereof, and if the condition of any of them is such as in his judgment renders it necessary, he may burn all of the colonies of bees and all the combs necessary to prevent the spread of the disease.

SEC. 3.—Any owner of a diseased apiary, of honey made or taken from such an apiary, who shall sell, barter, or give away such apiary, honey or appliances, or bees from such an apiary, expose other bees to danger of contracting such disease, or refuse to allow the Inspector of apiaries to inspect such apiary, honey, or appliances shall be fined not less than fifty dollars nor more than one hundred dollars, or be imprisoned in the county jail not less than one month or more than two months.

SEC. 4.—There shall be levied annually on the owner of each colony of bees in the State of Indiana one cent for each colony owned, which levy shall be placed on the tax duplicate of the respective counties by the county auditors at the time of the levy of other taxes each year. The amount so collected shall constitute a special State fund, to be disposed of in the payment of the salary and actual expenses of the Inspector.

SEC. 5.—The Inspector shall make at the close of each calendar year a report to the Governor, stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed, and of the expense incurred in the employment of his duties. Said Inspector shall receive three dollars for each day actually and necessarily spent in the performance of his duties, and be reimbursed for money expended by him in defraying expenses: Provided, That the total expenditure for such purpose shall not exceed the amount secured by the special assessment as defined in Sec. 4.

Luther A. Hammond, an esteemed resident of Keedysville, Md., and a long-time reader of this Journal, died of pleura-pneumonia the latter part of February, aged a little over 52 years. He was sick only a week. For years he was one of the most progressive farmers and bee-keepers in his district.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

☞ This is the first year I have taken the American Bee Journal. I like it better every copy I read, and will take it, if possible, as long as I keep bees.—A. K. WHIDDEN, of Prince Edward Island.

American Bee Journal

Feeding Sugar to Starving Bees

BY G. C. GREINER.

As I expected and feared, the open and comparatively warm weather of last winter (1905-6) induced and compelled bees to use larger quantities of their winter stores than they usually do during steady and colder winter weather. The fall flow from our late honey-sources, such as goldenrod, asters, sweet clover, etc., had not been over-abundant, so that bees had only enough supplies to bridge them over to the early spring flows, if the winter had been one of the usual kind. But under the circumstances, I awaited with fear and trembling, the warm days of the coming spring, that I might find out the conditions of my bees and lend a helping hand where necessary. At last the month of May arrived, and indications were favorable that the warm season had opened to remain so.

All my bees were packed in chaff on the summer stand, making it somewhat unhandy to examine them in a satisfactory way. I therefore stripped them of their winter protection as soon as the settled weather made it safe to do so, which, in this case, was a little earlier than I would have done if possible shortage of supplies had not caused me a great deal of uneasiness.

On May 3, being a warm, ideal spring day, the bees were busily engaged bringing in pollen and honey from early fruit-blossoms, and as I had nothing to fear from robbing or chilling brood, I made a thorough examination of all colonies. The result was a shocking discovery. About one-third of them had plenty of honey so that many could spare in case of an emergency, one or 2 frames, but the rest were practically in a starving condition, not a few so completely destitute of stores that literally not a cell of honey could be seen; all their combs not occupied by brood were as dry as extracting or bait-combs, after they are cleaned out by the bees. But, strange as it may seem, with the exception of a very few, all were strong in bees and had plenty of brood.

To judge from this state of affair, I knew, to prevent a calamity, something had to be done before the rising of another sun, and the only question was how that "something" could be managed to the best advantage. I had no honey in brood or extracting combs; all I had reserved from my extracting combs the previous summer for this purpose I had to use the previous fall in feeding up for winter on account of the unexpected light fall flow, which was so contrary to my experience of former years.

In Gleanings the editor says: "We have come to the conclusion that we can rear our own bees with sugar-syrup far cheaper than we can buy them." The principle of this assertion I followed to the letter, and I did it in the following way:

In thinking the matter over, I felt anxious to observe these points: To feed all colonies at once (practically) and do it with the least work; to give the least inducement to start robbing; to disturb the colonies as little as possible by opening the hives; and last, but not least, not only to save their lives, but to induce them to start anew and continue brood-rearing, which under the prevailing conditions, I feared they had given up. To hit all these "flies" with one blow seemed quite a puzzle to me at first, but I succeeded beyond all my expectations, as the result plainly proved.

Of course, I had to resort to sugar-feeding. I manufactured syrup in lots of 20 pounds at a time, using 10 pounds of each (sugar and water), and stirring the same without boiling, but slightly warmed, until all the sugar was dissolved. The feeding process was a simple affair. At night, just before dark, I went along the rows of bees, raised the front of their hives one after another to a position of about 45 degrees, turned a soup-ladle nearly full of the prepared syrup into the entrance, and lowered the hive to its proper place. The whole operation was so easily and so quickly done that it complied with nearly all the above requirements.

As an explanation, I will say that all my hives stand level (by test of spirit-level) except a slight pitch toward the front of about one-half inch. To make the above process of feeding practical, every hive had to be pitched at least that much the other way. But that was an easy matter. A little block under the front end of the stand accomplished that, and in many cases, raising the hive on the projecting notch of the alighting-board was all that was necessary.

To test the action of the syrup when being turned in, and make sure that no drowning of bees could take place, I tried the experiment with an empty hive before I undertook the real business. The syrup would run back in a narrow stream, strike against the back of the hive and spread sidewise, filling the corner, formed by the bottom and bottom-rim, with quite a body of the liquor clear across the width of the hive. When the hive was lowered to its level, the syrup would flow forward and form a thin sheet covering one-half or more of the entire hive-bottom. Being satisfied that the danger of drowning was reduced to a minimum, I proceeded with the operation.

The following morning I could not resist the temptation to find out how the bees had accepted their ration. I examined a number of the stronger colonies, and a few of the weaker ones, by unhooking the bottom-boards and raising the front of the hives high enough to give a fair view of the bottom. All the former had everything cleaned up; the bottom was perfectly dry, not a sign of the syrup fed the night before could be detected. Although some of the weaker ones had some of their feed left on the bottom, the result of my first night's feeding was so gratifying that I kept it up regularly every night for nearly 2 weeks.

On May 15, bees began to refuse their offered feed, and I could plainly see that another source of sweets drew their attention. The apple-trees had been in bloom for several days and bees were getting quite numerous among the blossoms. In the hives a change was taking place; the white coating of the combs, the well-known and pleasing indications of a honey-flow, and the appearance of new honey were getting quite conspicuous in all the better colonies. These conditions grew more prominent from one day to another, and before I had hardly time to realize what was going on, every comb in many hives was crowded to the last cell with honey; even cells among hatching brood were glistening with their contents. The few surplus cases, both for section and extracted honey, which I had put on when new honey made its first appearance, were full of bees rushing their work at a rate that I never experienced before during fruit-bloom.

As may be imagined, I was rushing things also to get my surplus cases in place, not knowing that a sad disappointment was in store for me. The climax had already been reached, and the drop was as sudden and discouraging as the beginning had been promising. A cold rain set in on the 18th, and continued more or less all through the remaining apple-bloom, with the result that no more honey was gathered until the latter part of June.

Stimulating feeding in the spring to induce brood-rearing is one of the many subjects on which the opinions of our ablest writers are greatly at variance. One sees his only salvation in its practice, while another says it does more harm than good. One reason why the views of our experts run in such opposite directions, is simply because it is a very difficult matter to produce positive proof either for or against it. It is very much the same in the case above stated. To estimate the beneficial results of my 2 weeks' sugar feeding, or the consequence of it had been omitted, is merely a matter of conjecture. However, there are a few facts connected with it from which we can draw a fairly correct conclusion:

1. On May 3, bees were in a starving condition.

2. On account of occasional unfavorable weather at that time, which prevented the bees from flying for days at

American Bee Journal

a time, honey was coming in too slowly to keep bees and brood from starving.

3. No colonies were lost from starvation.

4. Bees were seemingly in excellent condition to take advantage of the phenomenal honey-flow, lasting from May 15th to 18th, if the amount of honey stored during those few days justifies that assumption.

Since writing the foregoing, Mr. Latham's rejoinder appeared on page 1015 (1906) of the American Bee Journal. Although the opportunity is very tempting to make a detailed reply, I have no desire to do so, for the reason that these long-drawn-out controversies are interesting only to the persons directly connected with them, but not to the general reader. We all know that whoever has the last "say," has all the advantage over his opponent, and it is customary and courteous to give the weak side the benefit of the same. I am willing to let it go so in this case.

I wish to thank Mr. Latham for the kind spirit he exhibited in dealing with me. I gladly agree with him on some points brought out in his rejoinder, but on many others—I don't.

LaSalle, N. Y.

Bees Building Round Cells—Wax-Secretion, Etc.

BY R. C. AIKIN.

On page 1051 (1906) Mr. Hasty expresses doubt that bees ever try to build round cells. He also hints that bees have much more wisdom than some of us are willing to credit them with. Again, page 95 (1907) he refers to the matter and comes down a little, but only so far as to confess that in the case of queen-cells the mouths of them are round.

Well, Mr. H., you would better hasten to come clear down on the question of round cells, for the fact is, every cell bees build is first round until they cannot longer maintain the circular form. You get your old pipe and some soapy water and start to blow bubbles. You can make one round to start with; the second when it joins its mate dents or flattens a strip of one side. The third joins the first and second and makes two more straight lines where they join; this is then kept up until the 7th bubble is made, which forms a complete circle around the first, and if you keep on adding they just keep on forming 6 around 1, and every one of them, barring the outside ones, has become 6-sided.

The bee begins by plastering a bit of wax to the starting-point wherever she means to build a comb; this is lengthened into a sort of ridge, and other little ridges started from this to the sides, all the while wax being added at the starting point on top of the ridge. As the work goes on the various little ridges are formed into circular walls enclosing space after space, but the mouth of every little embryo cell is round, with thickened walls of the crude wax. As the cell begins to rise from the tiny ridge, the bee begins to shave off the surplus wax from these thick walls, and in so doing they straighten the partition walls, and they become the 6-sided form, very much as do the soap-bubbles. Just take a look at the comb that is being builded and you will see that the rudiment of the cell, that is, the mouth of every cell where the fresh wax is plastered on, is round; you can see this in almost any comb you may pick up at any time, but it shows to best advantage where the bees have just been building, and never finished the comb.

Again, sometimes we find a row of cells built in between two bars where there was just space enough for the one row; there they build circular cells, or very irregular ones. The hexagon cell is not so because of any great wisdom on the part of the bee; if she were wise she might build square cells where but one row can be put in, but she does not. There is no other form so easy to build as the hexagon, when considering the question of blocking one form against another; here Nature helps the bee out. She could build square cells and block them together in solid masses, but the greater length of side wall would be much harder to make and keep straight, and there would be so much waste space in each of the 4 corners of each cell, when the question of brood-rearing was considered.

Neither would the square cells have so great strength, and would almost of necessity have to have flat bottoms, thus entailing another loss of space, and a thing impossible for the bee to build. Given flat-bottomed foundation, and they either change its form or put extra wax into the corners in their endeavors to reach the sharp angle.

No, no, Mr. H., every cell is *started* in circular form, but as the next or adjoining cells are worked up to it the bee is practically compelled to flatten the rib or wall between, though she might want ever so much to round it. The only way to round them is to fill the corners with *extra* wax. Even with the hexagon form there is some extra wax in the corners, as obtuse as they are.

Many people still cling to the old tradition about the wisdom of the bee; they are thought to know when the master dies, or foretell events; which flower to visit and which not; just when to do this or that, and when not; yet wise or not, she constantly blunders, and when she gets on the inside of a window cannot exercise the wisdom of a common house-fly. The bee is governed in no sense by reason or the exercise of wisdom, but in all things is the creature of instinct and of environment. The master, once understanding all conditions, can just as surely tell you what they will do under this or that, if he thoroughly understands bee-nature, as the mathematician can tell the result in figures when you state to him the factors.

We talk of location ("locality"), what do we mean? Localities differ, seasons are not alike, colony conditions do not come in the same relation to weather, hive, management, flora, temperature, etc.; and so there is to be found a regular kaleidoscope because of the ever-changing relation of factors that influence. If writers could give us an intelligent statement of factors and their relation in their particular cases or localities, thousands of things that seem mysterious could readily be explained. Of course, we are not expected to know everything, and I am not reproaching any one for ignorance of truths; but I am pleading for common-sense. Let me illustrate:

There are hives and hives, and the man who has mastered the science of management, which is nothing else than understanding bee-nature and the relation of factors, can take any of the hives and get results, provided the hive is adaptable to allow the master to bring his management to bear; but ignorant management with the best hive ever invented will not bring the desired results.

We have a swarm of bees. Now it is the commonest rule that when bees swarm they go with sacs full, and when hived they cluster and hang in great bunches. Having entered the new home, why do they not get a hustle on them and begin to get in supplies? Go to the stand of a newly-hived swarm that has at once accepted its new home, and gone in and quietly clustered, and often they are so quiet, and so few bees coming and going, that you will be tempted to look in to see if they have not absconded. But you find they have gone in loaded down with honey, and are tired from their flight with so heavy a load, and not a cell that they can unload into. Hive them on comb, and see how quickly they will go afield, for they can unload, and will get to work. Without the ready-made comb they cluster and wait, and now comes the

Secretion of Wax.

Many think wax-secretion is a voluntary act on the part of the bee, but I do not. You can feed your cow and she gives milk. Skimp her in feed and she gives less of the fluid. The naturally poor milker will not milk well with any kind of feed or care, no matter how good, nor will the good milker do poorly unless you make it hard for her to do well by allowing or making bad or unfavorable conditions. Milk is a secretion of the cow and she never thinks about whether she will give much or little, good or bad; and no more does the bee use reason and voluntarily secrete or refuse to secrete wax. That swarm with loaded sacs cannot field, and so hang and rest well-fed. While resting the wax-secretion starts; with many of them is was already in full operation because of the abundance of nectar handled, and in extra-good flows the same loaded condition of sacs before swarming as after; so the next thing is comb-building—almost forced to do it by environments and instinct.

Some have written of strains of bees that put much or little wax in their comb, as the case may be, as though it were a voluntary or intelligent act on their part. Is it? There may be strains of bees that by reason of more vigor, or some cause, incline to free or scant wax-secretion just as there are good and poor milk secreters in cows, what*ever* caused it in the first place;

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but this alone does not account for heavy waxy or thin brittle combs. Many times a colony may have in process of secretion much wax, and the flow weakens so that there is not the demand to have comb that would be with much nectar coming in. Then, again, there may be an out-of-balance condition caused by varying proportion of fielders to nurses. It is perfectly foolish to condemn a certain queen or colony because it has given different results from its neighbor, without knowing and understanding its conditions—the relation of factors. Relation and number of factors make all the difference, and one must decide intelligently or he may behead the best queen he has, and save the poorest one.

I have heard of a music teacher who set his pupil to playing chords, and kept him at it until he could strike any possible chord or combination of chords, instantly the eye caught sight of them on the staff; but all the time the teacher had strenuously kept the pupil from attempting to play tunes. The pupil kept insisting that he be allowed to play some tunes. At last when the chords were mastered the teacher said the pupil might play a tune, but he said he did not know how, as he had never played one; but he was told that tunes were nothing but combinations of chords and that he could play any possible tune that he might find. This illustrates the bee-business. Once we master and understand the factors and their relation to each other, we can do with the bees just as the music pupil—play any tune we wish.

But it is not possible for man to make all the factors nor dispose of their arrangement or order; we are hampered and hedged about as the bee, but we can make the best of what we *can* control and adjust. When some one from New York, or from Colorado, or in the white clover regions where there is a June flow, or in some place where the crop is harvested from fall flowers, or from any other of the multitude and variation of localities and conditions, writes and says thus and so is the way, try to put yourself into that man's position and view-point, and make an intelligent analysis, and the disagreement of doctors will vanish, and all will be plain. Many times, when a writer tells of certain experiences, but overlooks some prime factor, I am at a loss to explain his results; but in very many instances, by reading between the lines, the whole thing is as clear as day. Our many differences are because we do not understand one another, because of lack of knowledge, and because of the limitation or incapacity of the human mind.

Man in his actions, both physical and mental, is a bundle of habits. We get into the habit of doing things this way or that way, and should it so happen that the various factors were in favorable relation, a reasonable or even splendid success comes to us, and we are led to think we are "it," and know just how. I know the reader will pardon a personal experience that illustrates the point:

The first 10 to 12 years of my bee-keeping experience was spent in what was then a new prairie country in southwest Iowa. The only sources of nectar that supplied both winter stores and surplus were fall flowers; sometimes it was starvation even in July, but usually enough spring and summer bloom to supply present needs with a filling of brood-combs in August with the main flow between Aug. 15, and Sept. 15. You see how I had all summer to build up strong colonies; could make early nuclei, and make of them strong colonies before the surplus flow. This relation of factors caused very little swarming at the usual time, or June and July, and when the surplus season did come it was fall, and the bees seemed little inclined to swarm so late, no matter how strong.

All these years it was no trouble at all to control swarming. In white clover districts the brethren were writing and complaining of swarming, and the awful times they told about was a puzzle to me. At last I decided I would write some, too, and tell of my non-swarming strain of bees, and seriously thought of going into the business of selling such queens. Fortunately, before I got around to it white clover was plentiful, with May and June surplus; my bees of years of non-swarming went crazy, and I imbibed a little more sense. See?

Loveland, Colo.

Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

(Continued from page 171.)

TUESDAY AFTERNOON SESSION.

"What is the best hive—the 8 or 12 frame Langstroth?"

The majority of the members favored a hive larger than the 8-frame Langstroth.

"Why do bees outside need a flight, while those in the cellar do not?"

Mr. Trinder stated that he wintered his bees outside, packed them very warmly, and they never offered to fly, even if his neighbors' bees were flying freely.

"What is the use of putting honey in 60-pound tins, when they are not to be the final packages?"

Mr. Holtermann—Under certain conditions, they are of considerable advantage. There is no time to put into small packages in the busy season.

Mr. Shaver would not wash 60-pound tins that are to be carried over, but Messrs. Holtermann, Armstrong, Byer, and others would, for fear the honey left in would deteriorate and cause the tins to rust.

BUILDING UP COLONIES FOR THE HONEY-FLOW.

Mr. House now gave his address on the subject of "Building up Colonies for the Honey-Flow." He stated that every structure must have a foundation. The foundation of a crop of honey was a good, prolific queen. In this, with him, the Italians were a failure; his choice being a cross of Carniolans and Italians. Abundance of good stores, and protection outdoors or in a repository were also essentials. In spring a thorough examination was made of each colony. Enough stores should be present, but not *too* much, and he wanted a good telescoping cover packed with some non-conducting material on each hive. In about 2 weeks most of the colonies should have all the brood the clusters can cover. Normal respiration of the bee is 3 or 4 times a minute; under abnormal conditions, as high as 124. The greater the respiration, the greater the activity and the higher the temperature. Honey coming into the hive will bring about all these factors. Hence the thing necessary to increase brood-rearing is "stimulative feeding." A small feeder is used, and the stimulating is done in the evening. Thus the temperature is kept up through the cool night to where it was during the day. If stimulative feeding were started, it was very necessary to keep it up till the honey-flow. To feed a while and stop, was positively harmful, as a great lot of brood was started, and if feeding were stopped, a large amount of this brood would starve or chill to death.

Notwithstanding all the speaker had said, he was glad to know that by a proper selection of the Carni-Italians, queens could be had that would rush brood-rearing in the spring to such an extent that feeding could be dispensed with. He used a sectional brood-chamber, 2 cases 14½x18x6 inches, to each colony for winter. By fruit-bloom to each colony should be added a third case of 10 Langstroth frames of brood, and at this time he adds a third case to give additional room.

At the opening of the clover flow he treats every colony by taking away the 2 sections of brood, and substituting a case of new combs on which the old queen is left with most of the bees. The brood-chamber taken away can be used as increase, or piled up indefinitely and run for extracted honey. The

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bees on the old stand are run for comb honey. Supers are added as needed, always at the top; never more than 4 are left on the hive at once. At the close of the white honey-flow, these colonies all having old queens, are doubled up simply by putting one brood-chamber on top of the other. As these colonies are all to be re-queened during the buckwheat flow, no attention is paid to looking for queens at this time, and they are left to fight it out.

Mr. House considers it of great importance to have *new* combs under the sections in order to produce a fancy article. In fact, he would "throw the old combs into the ditch" rather than use them.

Mr. Chrysler—With me, if I restrict the bees to as small a brood-chamber as Mr. House does, the bees will swarm in about 3 weeks.

Mr. Byer—Is there not a danger of those brood-combs giving an inferior quality of extracted honey?

Mr. House—Yes, there is that danger to guard against, but I am more concerned about the comb honey.

Mr. House stated in regard to stimulative feeding, that where it was practicable, outdoor feeding of honey in small quantities every day was advisable, and mentioned a Dr. Park who had practised this system with immense success.

Mr. Holtermann said he never before fully understood why stimulative feeding stopped suddenly was so harmful. He would caution against feeding honey from danger of foul brood.

Mr. Miller also thought that it was unwise to take the risk.

Mr. Root said he had visited Mr. House and found the quality of his honey away above the ordinary. He asked for a show of hands of those who used divisible brood-chambers. Three held up their hands.

Mr. Hershiser was positive that old brood-combs, even in the first extracting, produced as white honey as would new combs.

Mr. Holtermann and a number of others disagreed emphatically with Mr. Hershiser, and the Chairman, asking for a show of hands on the question, found 20 to 2 in favor of new combs.

Mr. Hershiser asked Mr. Root to conduct experiments along this line and show the people that the *2* were right.

Size of Zinc Perforations.

"Are the perforations in this sample of excluding zinc too small?"

Mr. Root said he was glad this matter was brought up; the sample submitted was the Standard Root zinc .162 to .163 of an inch perforations.

On the advice of Capt. Hetherington and some others, they had made the perforations as they are now, instead of .168 to .170 as they were formerly. Lately some evidence had come in that had made him think that possibly the holes were too small. It was no trifling matter to his company, as the dies cost over $1,000 per set. Carniolans were slightly larger than Italians and the trouble reported was more with the former race of bees. They wanted the truth about the matter, no matter what it cost. If the zinc was not right it would be remedied.

Mr. Holtermann and a number of others thought the zinc as at present made is all right.

Mr. Hershiser said he believed it would be advisable to increase the perforations slightly.

Mr. Chrysler had sold a larrge quantity of old-style zinc without a single complaint, but a lot of the new-style zinc (Root) had been returned to him, the bee-keepers claiming that the bees could not get through them.

Mr. House had 300 or 400 Root-zinc-excluders and had no trouble. But with 100 old-style, too many queens got through.

Mr. Miller would not like to see any change made. Attention was called to the fact that it was necessary always to put the rough or burr side of the metal up so that the loaded bees came against the metal on its smooth side.

Mr. Root said it was very difficult to punch steel metal without leaving a slight burr on one side. The burr was so slight that no harm was done if the zinc were put on right, as had been mentioned.

Rendering Old Combs.

"What is the best method of getting wax out of the old combs?"

Mr. Coggshall—An important question. Pulverize the combs thoroughly and wet them. Then use a press, the more powerful the better. From 20 barrels of slumgum saved up the past 18 months, from which he thought he had got most of the wax, with his kettle and sack process, he had recently extracted 700 pounds of good wax with a Hershiser press. All agreed that in the past thousands of pounds of wax had been wasted. Slumgum from solar extractors invariably contained from 30 to 35 percent of wax, and from other sources large varying amounts.

Mr. Craig read a letter from Mr. France, relative to the Ontario bee-keepers joining the National Association. It was moved by R. F. Holtermann and seconded by F. J. Miller that we as a convention, represent to the Ontario Bee-Keepers' Association the advisability of our members joining the National in a body. Carried.

WEDNESDAY EVENING SESSION.

Feeding Honey-Dew in Spring.

"Will it be harmful to use honey-dew for stimulating bees next spring?"

Members differed in opinion. Some intended to try it, while others would not take the risk.

Mr. House had used it once with disastrous results.

Mr. Root thought some honey-dew would be all right, while other grades were unfit for any purpose.

A Member—How can we know when honey-dew is being gathered?

Mr. Shaver—By color, objectionable flavor, and by tracing the bees in their working.

Reliquefying Buckwheat Honey.

"Can buckwheat honey be liquefied without injuring the flavor?"

Mr. Holtermann—Yes, but it requires to be done carefully.

At this time Mr. Laing asked leave to present the following resolution:

Resolved, That the Secretary of this Association be instructed to request the officers of the National Association to hold their next annual meeting in the city of Detroit, where we believe a great many of the Canadian bee-keepers will attend." Carried unanimously.

Mr. House was asked to explain the general principles of the Betsinger separators. He commented on recent articles criticizing this separator adversely, and said he felt that if Mr. Root had looked into the matter closely he would have found some cause for the trouble reported by Messrs. Burt and Dibbern. Personally, he had used thousands of them and never had the bees build comb fast to the separators. Some of their advantages over other separators were free communication for the bees and equalization of heat through the super. The surface of the sections was always smooth and not ridgy, as was the case when using fence-separators. While the initial cost of them was higher than other kinds, yet he would use them if they cost double.

Mr. House also exhibited a sample of the Betsinger Carton, and said that honey in this carton always brought 2 cents per pound more than the market price. Speaking of the care of comb honey, Mr. House said that if honey were "weeping," if the temperature of the room were raised to 100 or 110 degrees and kept there for 3 days, the honey could be redeemed.

Mr. Root—This is a valuable item and worth coming to the convention for. He wished to say that he had seen some wonderful results from the use of the Betsinger separator, and was at a loss to understand such a difference as reported by Messrs. Burt and Dibbern.

A number of samples of honey—good, bad, and indifferent—had been collected. Grocers of the city were invited to be present, and Mr. Smith was asked to explain the difference in samples, pointing out defects, etc. About 30 samples were on exhibition varying from No. 1 clover honey to the vilest of honey-dew. A sample of unusual interest was 2 sections of fancy honey in perfect condition, in a case; produced by James Armstrong in 1896. Mr. Root and others said they had never seen anything like it before. Another sample of extracted was from Vancouver, B. C. It was also 10 years old and in fair condition, a peculiar thing about it being that the levulose and dextrose had separated—half of the sample liquid and other half granulated.

Regarding grain and flavor of granulated extracted honey, Mr. Coggshall and others said that stirring honey just as it is about to granulate will improve texture and flavor, and also change color somewhat. About 45 minutes was spent in an informal manner, discussing the various samples; after which the convention adjourned to meet in the morning.

(Continued next week.)

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Conducted by J. L. Byer, Markham, Ont.

Second-Hand Tin Honey-Cans

"I am done with them," quoth W. Z. Hutchinson in the January Review, speaking of the use of second-hand tin cans for honey. I suspect a good many other bee-keepers have come to the same conclusion; certainly the writer of this has had all the experience he wants with the article.

To be sure, second-hand tins accumulate on the dealer's hands, and it seems too bad to discourage the sale of them, viewing the matter from that standpoint. But as far as the bee-keeper is concerned, I feel sure that second-hand tins are dear at almost any price, especially if the white table honeys are to be stored therein.

The second-hand tins I have bought have been, as a rule, unsatisfactory in many ways. Quite a large percentage have leaked, more or less would be battered and rusty either inside or out, or both, and all were invariably *mussy*. A greater objection is the danger of foul brood, if the cans are received in warm weather. Some time ago I bought some second-hand tins to put buckwheat honey in, and when they came to hand I found the shipping tags of the man who had sold the dealer his clover honey still attached to the tins. As I happened to know that this bee-keeper's apiary was rotten with foul brood, needless to say those cans were "out of sight" in short order. It is only fair to add that the dealer from whom I bought the tins was perfectly honest, and never suspected anything wrong.

Use of Bee-Smoker and Bee-Veil

While the discussion was on relative to smokers at the Ontario convention last November, Mr. Brunne claimed that he did not use a smoker during the honey season in managing 110 colonies of bees. I am not going to contradict Mr. Brunne, but I want to say that there must be some personal magnetism about him, or else his bees are entirely different from any it has been my pleasure to come in contact with.

But granted that it is possible to do without a smoker, will any sensible bee-keeper contend that that fact would make it advisable to do so? The most of us don't keep bees for the purpose of seeing if we can manage them without a veil or smoker; on the contrary, the veil and smoker are used in just the proportion that their use will help us to work rapidly, with the least injury to the bees.

During queen-clipping I never use a veil, for the reason that bees are not nearly so cross as later in the season; and, again, it is much pleasanter to work without a veil, when the work consists principally in using the eyes. Later on, in the extracting season in particular, I want a veil, every time; not that I dread the stings so much, but more so as a time-saver, for no matter how quiet a strain of bees, there are sure to be in a large yard some cranks flying around the operator's eyes. While it is quite possible to do without a veil even at such times, the practise of some good bee-keepers proves this. Say, wouldn't there be fun in the majority of cases if the operators tried to take off the honey from 100 colonies without the use of a *smoker?*

Bee-Cellar Heated With an Electric Heater

Mr. E. G. Hand, of Fenelon Falls, Ont., winters his bees in a cave or cellar made by remodelling an old lime-kiln. While he has had fair results in wintering in this cellar, yet the temperature was generally a little too low in severe weather, and the walls were inclined to be quite damp.

While spending a day with me last September, Mr. Hand intimated that he intended to try to remedy these adverse conditions this winter by installing a small electric heater in the cellar. Just a few days ago a friend living near Mr. Hand wrote me that the heater was a success, and said that he had just come from visiting the cellar on the coldest day we have had this winter, and found the thermometer standing at 47 degrees.

I might say that Mr. Hand is only a short distance from where the electrical energy is developed, and I understand the cost is quite low; but doubtless with the spread over the country of electric power, many might avail themselves of a like convenience, even if they should be a considerable distance from where the current is generated.

I hope in the near future to be able to give the readers of "Canadian Beedom" a full description as to how the heater is arranged, and also give results of wintering as compared with other winters when the cellar was unheated.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Does the Elm Yield Honey?—Other Subjects

So you think the elm a honey-producer as well as a great pollen-producer, do you Mr. Scholl? I think if you will investigate more closely you will find the bees were at work on the leaves of the elms, gathering this dark honey you mention in a recent issue of the American Bee Journal; that it was "honey-dew" the bees got from the leaves, and not real honey from the bloom. I never could decide that bees got anything but pollen from the elm-blooms. I am open, however, to conviction, and would rather *know* you were right than myself.

FEEDING COMBS OF SYRUP

The way I've been feeding my bees this winter is this: I go over the apiary through the middle of the day while it is warm, lift the hives so as to tell which are the light ones, and mark those that I think need feeding. I then light the smoker, open the hives, and take out the empty combs right up to the cluster of bees. I make an estimate as to how many combs of sugar syrup each colony will need. Then I fill the combs with warm syrup by using a quart dipper with holes punched in the bottom from the inside. The combs are now filled by holding them over a common wash-tub with the syrup dipped up and allowed to stream through the holes in the dipper so as to fill the empty cells in the combs. When one side is filled reverse and fill the other.

As fast as they are filled hang the combs in empty hive-bodies. The hive-bodies should be above the ground on a bottom-board, and a vessel put under to catch the drip. As fast as the combs are filled stack up the bodies until you have all the combs filled you wish to use. Then about the time the bees stop flying for the day, hang the combs of syrup right up to the cluster of bees, putting in the number you wish each

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colony to have. In this way there will be little or no excitement among the bees, and we have the feed right where it is wanted.

COTTON-SEED MEAL AS POLLEN

A novice in bee-culture, here in the South, who said he was a reader of the American Bee Journal, wishes me to answer the following questions for him :

1. I notice my bees at work very busily where cotton-seed meal is being fed to stock, collecting it and packing it on their legs like pollen. For what purpose are the bees collecting this meal?
2. Will this meal in any way harm the bees?
3. What effect will this unusually warm winter have on the bees? Will it be detrimental or otherwise to them?

To the first question I will say that the bees are gathering the cotton-seed meal for the same purpose that they use natural pollen. We have often seen bees collecting cotton-seed meal and using it for pollen, and they will start brood-rearing the same as with natural pollen.

2. No, the meal will not harm the bees except in one way—it will cause them to start brood-rearing in winter, and cause the bees to use an unusual amount of stores. If you don't look sharply they will starve before spring.

3. The effect it will have on the bees is given in the answer to the second question—that is, brood-rearing out of season and a large consumption of stores, with the result that many of us will be compelled to feed. So we consider the warm winter detrimental rather than otherwise to bees in the South.

L. B. SMITH.

Rescue, Tex.

Perhaps I am wrong in my conclusions that the bees get the honey from the *blooms* of the elm, but I know the honey comes from the elms all right. We will watch again when they bloom.

Poor Queens Often Cause Winter Losses

Winter losses are not always due to the shortage of stores as much as to poor queens. In many cases a colony is short of stores because the queen has been a poor one and the bees did not store enough for the winter. In other cases, the poor or failing queen is lost during the winter months, and this results in winter loss.

Canadian or Southern Weather?

Summer weather still continues, and 85 degrees, Fahr., in the shade has become quite common. To read of the 15-degrees-below-zero weather mentioned by Mr. Byer, on page 113, makes a person shudder even if he is in a "hot" climate. The lowest we have experienced here was 28 degrees—not below but *above* zero—and of such short duration was this cold spell that the "roses, violets, and carnations" bloomed on just the same, besides many other flowers that have joined them since those lines on page 70 were written.

Speaking from experience, having wintered both in the North and the South, I prefer Southern weather, and "I am free to confess that bees in the air and 80 degrees Fahr. is pretty alluring," indeed, when one must be "cooped up" with cold, snow and ice outside, while here I have been out among the bees in shirt-waists making the spring examinations, and counting the frames of brood. It is true the effect of such mild winters becomes noticeable in the spring, as an increased consumption of stores often leaves colonies short. Fortunately, very few of my colonies will need feeding, especially since a mild spring means early bloom for them. Hence, it will be seen that what has seemed to be a loss in such mild winters is made up in the spring, unless it is in localities where the bees have no access to early spring blooming plants of some kind.

☞ The weekly visits of the American Bee Journal are always anxiously looked for. W. S. WILLIAMS, of Pennsylvania.

Conducted by EMMA M. WILSON, Marengo, Ill.

A New Year's Wish to Each Sister

"'God keep thee,' friend, through all the years,
Through all the joys, the sorrows, tears
Of life—its commonplaces, too—
God keep thee sweet, and brave, and true.

"Amid the doubts and fears that rise
In every life—the mysteries—
Things that are hard to understand,
The movings of a mystic hand;
God keep thy reason sound and sure,
Thy mind alert, thy heart still pure.

"God keep thee always—this I pray
For thee, upon this New Year's day."

FRANCES E. WHEELER.

Miss Frances E. Wheeler, the mistress of Clovernook Duck Ranch, in New York State, amid her many literary cares, as well as the cares of her numerous feathered family, has found time to send the above greeting to each of the sisters. It was a little late in coming, and has been delayed a little more since coming, but it is so beautiful in sentiment that, like many other things, it will keep sweet and fresh indefinitely, and is just as appropriate now as earlier in the year.

Buying and Selling Honey Between Bee-Keepers

There was lately a very readable article on "Successful Honey Marketing," in the Bee-Keepers' Review. I can endorse much of it from actual experience. It did not, however, touch on the caption above. There is more or less buying of honey between bee-keepers, and some thoughts on the ethics of the thing have been forced on me lately.

I take it that to the novice no honey is as good as his own, but as the years go by, and the novelty of being a honey-producer wears off, he is willing to listen more to the praises "the other fellow" showers upon his, and when he reads of "truly delicious honey—a honey with a flavor all its own—a flavor that smacks of the wild raspberry of the forests;" or when a California brother "blows" about his orange-blossom honey, or says, "I could fairly taste the magnolia in it;" his mouth waters for "something better than he has known." He is now interested. He is willing to try. In fishing parlance, "the fish sees the bait;" but as every fisherman knows, to bait a fish, even to hook him, is not always to land him. To show what I mean, I will relate a little transaction :

A (master of language) offers honey for sale; free sample. B writes for it. He receives a postal card which says, "The ——— honey is all sold. I still have some very fine buckwheat, thick, ripe, and rich, that I can sell at 6 cents. If you can use any of this, I would be glad of an order. I can send a sample if you would care for it."

B feels annoyed, as he says to himself, "Why should he send me a *postcard* that shows me as trying to buy honey, and containing an offer of honey? No doubt it is a good way to advertise, but offers of honey sent into another's territory might well be confidential. I wanted his honey, if at all, for *my own use*. From this postal it might easily be inferred that I wanted it for my trade, and some, at least, of my customers would object to that. They want home-produced honey.

However, B decides to overlook the postal annoyance as a trifling indiscretion, and says to himself: "I have never tasted buckwheat honey to know it as such. I might like it. I may as well sample it, and if I like it I will buy a can." So without losing time he asks that a sample be sent him as offered.

Fully 2 weeks after there comes a second postal from A, saying, "I am about closing a deal that will take all the honey I have. Sorry to disappoint

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you. Hope I will have more honey next year than I had this."

If B was annoyed at the first postal, his annoyance is greater at the second, and he says in mental reply to it, "Big crop or little crop, *you don't bait me again.*" Nor is it soothing to his feelings when a bee-paper comes to hand 3 weeks later and he finds that same honey, "ripe, rich, and thick," is still being offered in undiminished quantity!

Bee-keepers, courtesy and honest treatment pay. If you don't want to send samples of honey don't offer to do so. If you do offer, send along promptly even if you are about to make a deal. It may count for a sale another time. And at least it should be worth more than the sample to you to know that your prospective customer can not possibly think that you have trifled with him. Some people are, as is well-known, touchy, and while it is undoubtedly true that "There ain't no sense in gittin' riled," riled they will get if you give them half a show.

(Mrs.) A. L. Amos.

Comstock, Nebr.

Mrs. Amos is right; the Golden Rule should prevail among bee-keepers as elsewhere. It pays in the long run. Let us hope that the transgressors she is aiming at are not to be found among the sisters.

Cleaning Sections—A Day's Work

A pleasant letter from Dr. Max Boelte contains the following:

Dear Miss Wilson:—I offer my best thanks to you for your kind answer about cleaning sections for market, and appreciate very much the pleasant and cheerful way of expressing yourself. Your answer is of greatest interest to me, yet I am compelled to come back to the subject as soon as I shall be able to do so, for even if it is an answer it still leaves sundry points not exactly clear, and does not establish clearly what I had asked. You speak of the work with T-supers, while we here in California use generally the section-holder style of supers—24 mostly, some also 28—and my inquiry was to know about the average work that could be done with *our* style of supers, not the T.

Dr. Max Boelte.

Valley Center, Calif., Jan. 6.

It is much easier to tell just what has been done right here with what we have than to tell what may be done by some one else with some other fixtures, and under different circumstances. But I'll do the best I can to give some kind of an answer, based on actual experience. Before the adoption of the T-super we used other supers, mostly wide frames containing 2 tiers of sections; that is, each wide frame contained 8 sections, said sections being the 2 bee-way, 4¼x4¼x1⅞. They were, of course, taken out of the frames before anything was done at cleaning them, and if your sections are taken out of the frames before any part of them is cleaned, there may be a chance for comparison. I cleaned thousands of these sections, but, without definite memoranda of work actually done, exact figures can not be given. I feel safe in saying, however, that 1200 to 1500 were cleaned in a day, possibly more.

It is only fair to remember that with much experience I became somewhat expert, and, indeed, I have been accused of being quick-fingered in general. Just how much should be discounted for that is not easy to say. You, Dr. Boelte, can judge as well as I. Possibly it may not be a very wild guess to say that the average hand ought to do three-fourths as much, or somewhere in the neighborhood of 1000 a day.

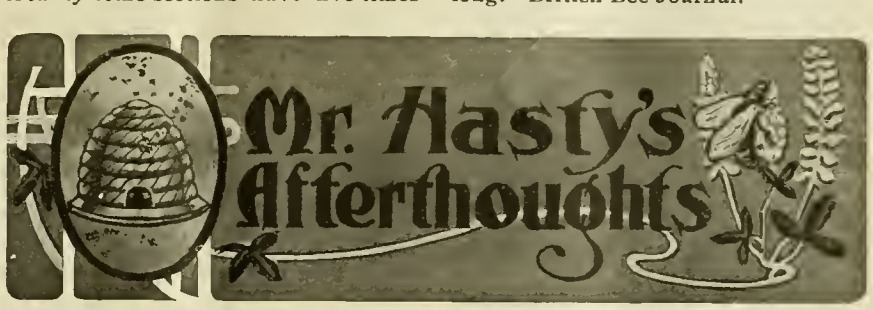
But we are talking now about doing the work when the sections are so cold that the propolis is brittle. In California, or anywhere where the propolis is soft and stringy, it is a very different matter. If I were obliged to clean such sections, I don't believe I could get through with more than half as many in a day.

There is another factor in the problem. Some localities are more gluey than others. Indeed, in the same locality some sections have five times as much propolis as others. I can imagine sections with so little glue on them that they might be cleaned in half the average time. I can also imagine sections so gluey that they would require double time.

You will see, Doctor, that there are so many ifs in the case that it is hard to be very definite; but if there is any point upon which you have any further questions, such questions will be cheerfully answered to the extent of ability possessed.

Honey in Infant's Food

At first the child had half milk and half honey, liquefied with water. Then 4 parts milk, 1 part honey, with a little water. The child grew strong and plump, and never had a single pain, while it slept soundly the whole night long.—British Bee Journal.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Meeting of Queen and Drone—Size of Cells, Etc.

I think Dr. Miller is getting a little too near the line of discourtesy in charging me with originality and novelty in what I wrote about the meeting of queen and drone. The Irish Bee Journal has already acquitted me of novelty; and I plead that originality is not what I'm at. I would be happy to quote the publication, page and date about these matters, but a very poor memory forbids me to do so. I have for many years been accustomed to give extra attention to whatever I saw relative to mating, and the whole has "simmered" in my mind. Naturally what seemed *to me* to be the most illuminative had by far the most powerful effect upon me—while another cast of mind might be swift to forget the very things which moved me the most. There is a decided difference between invention and deductions from a lifetime of reading. When I spin theories out of my own wool, isn't it the fact, Doctor, that I am pretty free to say so—as well as pretty free to do so?

Now as to excess of drones lacking food. So far as honey is concerned, my understanding is that they help themselves to it whenever it is not offered to them in abundance. So, of course, they are supplied—until the dread time comes when the workers decide to make a general onslaught upon them. But I don't believe honey alone is sufficient to keep a drone in best serving trim—do you? If any one thinks so, the burden of proof is upon him. The presumption is very strongly the other way. Service calls for nitrogen, to be supplied by nitrogenous food; and honey is nearly destitute of nitrogen. Don't believe anybody can be found that will claim that drones eat pollen, or that they could digest it if they did eat it. If not this, then the alternative would seem to be that they are fed nitrogenous food by the workers—with a bare possibility that the nitrogen given them when larvæ suffices for a lifetime. I'm not ready with any further proof, but I *think* that a few drones in a hive are abundantly fed, fed with stimulating food other than honey; that a larger number are fed more sparingly; and that with too large a drone army the workers stop feeding them almost entirely.

As to the size of cells built, there are times and seasons when you could hardly coax bees to build a drone-cell anyhow; and then there are times and seasons when it seems as if you couldn't make them build anything else. I suppose Dr. Miller (and other people as well) mend combs at leisure times in the spring, and give them to the bees when worker-comb is the only word. Naturally the splicing shows few drone-cells under those circumstances. But when the honey-flow is on, and drone-rearing is the best word—and, moreover, when they have been several weeks engaged in a running fight with you as to whether they shall have a drone out or not—under those circumstances the conditions are very greatly altered, and one should hardly expect them to build a single worker-cell if

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they can do any other way. When I wrote "desperately difficult," and, "the work is disagreeable as well as long," sore memories of long ago were backing the thing up. I don't like to get beaten by bees—or bee-keepers, (you may have suspected that much); and years ago a big lot of colonies compelled me to "throw up the sponge" and confess that I *could not* keep them from getting drones. My final defeat was largely owing to this scatteration of the drone-brood. I tried to shake the combs gently enough that there wouldn't such an awful lot of nectar fly out. The result was that a good many bees would manage to hang on when their comrades were shaken off; and it seemed to me that these remaining bees would consciously *hug* the scattered cells to keep me from seeing them—but perhaps that was my excited imagination. If Dr. Miller exterminates drones without shaking the bees off, no wonder he doesn't know anything about scattered cells. Half a notion to tweak his nose by claiming that that's just the way he has always done. And (if my frisky adversary wants a categorical answer) a few minutes ago, in the comb closet, I saw a solitary drone-cell on the first comb I came to. And the next time Dr. Miller says he thinks the moon is made of green cheese I shall pull on an apprehensive face and say, "I should like to know how Dr. Miller *knows* this." Page 47.

FUMIGATING COMBS WITH FORMALDEHYDE.

David J. West reports success at making foul-broody combs clean with formaldehyde. The treatment, as he describes it, is of a very strenuous sort; and yet he makes a final confession that the combs are not *always* clean. That would be a sickener to some of us. Too dire a danger to stand in doubt about. Page 47.

BEES IN THE ENDS OF THE EARTH.

A missionary who notices bees is just the right one to post us about the bees in the ends of the earth. East Africa, which Saeuberlich reports from, is, it seems, the home of a small, light-colored bee whose actions show singular variation from the behavior of ours. We hive our swarms, and rarely fuss with decoy hives. There hived swarms so seldom stay that decoy hives are trusted to almost wholly. And the bear, it seems, is not the only animal whose appetite for honey is so ravenous that he will upset hives to get it. Pity they didn't tell us some name whereby to call this—honey-woodchuck. Page 48.

HARDLY GO BACK TO 2-POUNDS.

No doubt, Mr. Merrill, the 2-pound section is better theoretically than the scant-pound section; but (do you mind?) turning the wheels of progress backward is very near to the impossible. The moment we poor darkeys grab the big fly-wheel to reverse it we get "frowed." Page 48.

What Bees Make

TEACHER—"What is it that bees make, Tommie?"

TOMMIE—"Sore spots, ma'am."—*Yonkers Statesman.*

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Superseding Queens in Winter

1. Yesterday (Feb. 17) was the warmest day we have had here this winter, 60 degrees in the shade for the greatest part of the day. I took my bees (10 colonies) out of the cellar for a flight, and found on looking them over that one colony had a patch of drone-brood about 3 inches in diameter, partly capped over on both sides of one comb. I found some worker-brood in the rest of the hives, but this one had none. I found the queen but it looked more like a virgin than a fertile queen. Will bees supersede their queen in winter?

2. We expect to move out on to a claim about 5 miles south of Stratton, Colo., this spring. How is that part of Colorado for bees?

3. Do you think it will pay to take the bees along? IOWA.

ANSWERS.—1. In the proper sense of the word I doubt that a queen is ever superseded in winter. If a queen is lost, they may try to replace it almost any time. Your queen is a drone-layer, and so worthless.

2. I don't know about that particular part, but Colorado in general is good.

3. If you ship a car, so freight will be little, it may pay. Even then, if prices at both ends are nearly alike it will not pay.

Bokhara and Japan Clover

How does Bokhara clover (*Melilotus alba*) and Japan clover (*Lespedeza striata*) compare with sweet clover? Are they related? Are they of any value to bees?

PENNSYLVANIA.

ANSWER.—Bokhara is the same as sweet clover, and so, of course, is valuable. I can't tell about Japan clover. Who can, and will?

Rearing Queens—Mating, Clipping, Etc.

1. I have never been able to make a success of queen-rearing, either from unfavorable season or bad management. I have in mind to try a plan given on page 7, by F. L. Day, in which he makes two nuclei from one colony by putting a division-board between them in the new hive, and leaving it on the old stand. In taking the queen away, can I give her to another colony by depriving it of its queen? Would they accept her at once, or wait awhile? or how long?

2. He says he has never been able to get many laying queens in that way, but by inclosing the queen-cells in West cell-protectors, with spiral cage attached, and then hanging these between the frames of the nuclei, he secured fine virgin queens. What is the West cell-protector? Is not the spiral cage itself the cell-protector? or is it something else?

3. When these virgin queens hatch out, will they not kill each other if not watched and taken out? and can I introduce them as I proposed to do with the fertile queens?

4. When these virgin queens come out to meet the drones, would the swarm be likely to swarm out with the queens?

5. Do they ever alight, and, if so (with the bees clustered around the queens), would they ever return to the hive?

6. I shall want to clip the queen's wing when she becomes fertile. When should this be done?

7. What is your opinion of this plan? Will you suggest a better one? IOWA.

ANSWERS.—1. Before attempting to answer I should like the privilege of a little chat with both you and Mr. Day lest I may misunderstand. But I'll do the best I can, and will be glad to be straightened out if I do misunderstand.

You say Mr. Day makes two nuclei from one colony by putting a division-board between them. That is possible, but I rather understood that instead of taking a full colony to make two nuclei, he drew brood and bees from different colonies to make his nuclei, in which case there would be no queen to remove. But taking it as you understand it, I reply that when you remove the queen from the divided colony you can at once give her to a second colony which is deprived of its queen, but she must, of course, be caged or the bees would promptly kill her. After being in the hive for perhaps 2 days, she is said to have the scent of the colony, and if it is arranged so that the bees will free her in about 2 days from the time she is put into the hive, she ought to be received all right. A good way would be to put her in the hive in a provisioned cage a couple of days before the removal of the reigning queen, but not allowing the bees to get at the candy till the removal of said reigning queen.

2. If we had our chat together I should like to have Mr. Day tell us more fully about his failure to get laying queens in his nuclei. I have reared hundreds of laying queens successfully in hives containing 2 nuclei each, and some in hives containing as many as 6 nuclei each. He says he failed to get many laying queens, but plenty of virgins, and it sounds a little as if his effort to get laying queens preceded the getting virgins in the cell-protectors. If that supposition is correct, it may be that the failure to get the laying queens was because it was too early. Getting queens much before swarming time is likely to be a failure, and when one does succeed in getting a young queen to lay very early, she is likely to be very poor.

The West cell-protector is a spiral wire arrangement that allows the bees to get at only the extremity of the cell, for when bees tear down a cell they do not do it at the point but at the side. The spiral cage is separate, and put over the protector, so that when a virgin emerges from the cell neither can she get out nor can the bees get in.

3. If the protector be used without the cage, you may count on all the virgins but one being killed as fast as they emerge; but if each virgin has a cage, of course there will be no fighting. The virgins may be introduced in the same way as laying queens, and if taken when less than a day old will be ac-

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cepted as readily as laying queens; indeed, a virgin just out of the cell will be accepted more readily than a laying queen; but a virgin several days old is not easily introduced.

4. No more likely than any other virgins, for you must remember that whether in a nucleus or full colony, every virgin must leave the hive before she is a normal laying queen. It is the general belief that in some cases the bees go out with the virgin on her wedding-flight.

5. According to general belief the bees in such case may cluster and then return to the hive, in very rare cases never returning.

6. She is likely to begin laying when about 10 days old, although it may be a day or two less, and it may be several days more.

7. I am not sure that there is a great advantage in keeping nuclei just for the sake of having virgins hatch out in them without being fertilized. Why not just as well have them in any hive with a laying queen? For in the protector with cage they will hatch out in any hive, whether it has a queen or not. Only if there is a laying queen in the hive there must be food in the cage or the virgin might starve.

If I understand the plan correctly, a virgin is to be hatched in the nucleus, and then given to a full colony where it is to be fertilized. The main thing for which nuclei are used in queen-rearing is to have the virgins fertilized, saving the time of a full colony. Even with the best care a number of cases will be failures, and if a failure occurs in a full colony, there is a serious loss of time before another queen can be got to laying. Either plan will work all right; the only point is that in general it is economy to take the time of a nucleus rather than a full colony to get a queen to laying.

Bottom and Top Starters in Sections

On page 96 you say, "Have the sections filled full with worker foundation;" and on page 85 I read: "Dr. Miller has for years described his method of using bottom starters (as well as top ones) in sections of comb honey." Kindly explain this method, as I have never seen it in the papers. I have the Daisy foundation-fastener, and would like to try bottom and top starters. Would you make them meet in the center? or how much space between the starters? When they are fastened only at the top, they twist and do not hang true. ONTARIO.

ANSWER.—The matter is very simple, and your Daisy fastener is just the thing to fasten bottom as well as top starter. It wouldn't do at all to let the two starters meet in the center, for in that case the bottom-starter would be certain to fall down and make a mess. When you buy foundation for sections, you are likely to get it in sheets 15½x3⅞ inches. This is just right to make four starters of each kind. The top-starters are 3¼ inches deep, and the bottom ones ⅝. For a section that is four inches deep inside, you will see that would leave a space of ⅛-inch between the starters. In reality the space will generally be more than that, for the hot plate melts a little of the edges of the starters. First fasten the bottom-starter, turn the section over immediately, and put in the other starter. If your bees are like mine, the first thing they do on being given the sections will be to fasten the upper and lower starters together.

Cleaning Sections for Market

On page 786 (1906) "Colorado" asks, question No. 2:

"How many cases of 24 sections does *your* best hand clean in a day?" And, also, "What should be an *average day's* work for an *average hand?*" etc.

Now, permit me to say that I underscored the *your* and also *average day's work* and *average hand* so as to call your attention to these words. Of course, it can not be either pleasant or interesting to go into a longer controversy about this matter, and I think neither you nor I are of the "hair-splitting" variety. I will then admit that when I first read these questions, and your answers to them that I had not paid any special attention to the word *your*. For years I have known very well that you work with the T-supers, and, therefore, I should have thought of that. The second part of the query, viz.—*average day's work* and *average hand*—that's where the trouble comes from, for, unfortunately, for years I have not seen any T-supers in this part of California, and, worse still, my apiary also is furnished with the unfortunate section-holder style of supers. Around here there are not many genuine bee-keepers—mostly "farmers who keep bees," and who still work them on the "know-it-all," "rule of thumb" principle, as their forefathers did it. Well, it has happened that once in a while I have met, and do meet, persons who are a trifle above the average "Ignoramus Jake" class, and with whom I can have a genuine "bee-talk," and it nearly always has culminated in this: "Yes, if only this infernally slow scraping were not there!" (I am, myself, of a mechanical turn; can work very neatly in wood and metals, and be it crankiness, or what, I generally make all contrivances myself; and there is an extractor, section-presses, foundation-fasteners, frames, queen and drone traps, etc., all of my make, and in use in my apiary.)

Now, then, you will better understand that my brains have been at work to rig up something to facilitate the scraping performance—save time and labor—and when I read the answers given by you, they *stunned* me,

1. But why did you not answer that part about *average* a trifle more to the point? For instance, if you had said, "With T-supers, as in my apiary, Miss E. M. Wilson cleaned ——; but for section-holder supers only so-and-so much should be the average," etc., would not that have been the better answer? For there are many bee-keepers who do not work the T-super. But enough of this, and kindly excuse my frankness about the matter.

2. I am, unfortunately for myself, the happy (?) owner of an apiary of about 60 colonies, present count (lost only 4 colonies during the terrible spell of 3 weeks' rain, snow, and ice that has visited us), all with the section-holder supers, and a good number of them there are. If the T-super, as you advocate and work it, allows such wholesale scraping and cleaning of sections—well, that one item alone would be an inducement for me to change to the T-super. But, last year was a sad failure for us all, and I, like many of the crowd, am "in it," with lots of material, but a rather small amount of cash at my command. How can I effect a change in a rational and economical way? and when and how should I proceed?

3. Are queen-excluding zincs absolutely necessary for T-supers?

4. Could I use the supers on hand?

5. What are the dimensions of the supers (tight) as you use them by preference?

6. If I can find the answers to these (and other) questions in your book of "Forty Years Among the Bees," please let my know, and I will procure it at once. CALIFORNIA.

ANSWERS.—1. I am painfully aware that I do not always make entirely satisfactory work in replying to questions. Sometimes it is difficult to understand just what is asked for. Sometimes I may not fully understand the conditions attending the question. Sometimes I don't know enough to answer correctly. Yet with all these limitations it is my constant effort to try to put myself in the place of the questioner and answer the *spirit* of his question.

If I understand you correctly, you think it would have been more to the point if I had answered about sections taken from section-holders. Yes, more to *your* point, but would it have been to the point for "Colorado?" Please remember that besides section-holders and T-supers there are other surplus arrangements, and if I had answered about section-holders, then I ought to have answered about wide frames, and other kinds. But "Colorado" didn't ask about any of these, and please remember that I was trying to answer "Colorado" and not some one else. As nearly as I understood it, I tried to answer the letter and the spirit of his question, and there was nothing to indicate that he wanted to know about section-holders. Perhaps section-holders are not so universally in use as you may suppose, and perhaps there are more T-supers than you suppose. T-supers are in use in Colorado to a considerable extent—perhaps to as large an extent as section-holders. At any rate, that was what I understood him to be asking about, and what you understand him to be asking about in the first part of his question, and I do not yet see that he referred to anything else in the second part.

If it had occurred to me that any one would misunderstand, it would have been better to have specified that my answer was referring to T-supers; but I do not think it would have been the better answer to have answered some other question that some one else might have asked, for if I should follow that plan there would be hardly any end to answering each question. Besides, the way is always open for any one who wishes answers to those other questions to ask them.

I think, although I can not be entirely sure, that the question you want answered is something like this:

"What would be an average day's work for an average hand in cleaning such sections as I have, and in the conditions that I have?"

Frankly, I don't know the answer to that question. Sections in section-holders are not all alike, but I don't think that would make much difference. Conditions may be very different in your place from what they are here, you not having the cool weather we have. That might make a very big difference. When it is cool enough for propolis to be brittle, it separates from the wood readily. When warm and soft, instead of coming off easily, each stroke seems to drive some of the glue into the wood. It is impossible to say just how much difference this would make, but from what you have heretofore said it would be nothing strange if it would take five times as long, or longer. I wonder if you couldn't make a difference by taking some special means to cool off your sections, at least taking them in the coolest part of the day.

We have never done enough at cleaning sections in section-holders here to say what a day's work should be, but when we used wide frames 1000 sections was not too much for a day's work. Probably section-holders would be much the same.

2. I would hardly advise going too fast in the matter of changing to T-supers. While some think them the best, others think them the worst. Better make a trial on a small scale till you know how *you* like them. I am just a little afraid that you have an exaggerated idea of the gain to be had in the matter of cleaning sections by using T-supers, and I doubt whether that alone would warrant your changing. It will be a simple matter to make a few of them—possibly some of your old supers can be changed—and you can get the T-tins from supply-dealers for about a cent apiece.

3. I doubt that excluders are necessary with any kind of section supers. Certainly, I've never used them with T-supers. But it is probably important that the sections be filled with foundation if the queen is not wanted in them. For if small starters are used then you may expect the queen to go up to lay in the drone-comb that will be sure to be built there.

4. It is entirely possible. I had a lot of Heddon supers that I changed into T-supers.

5. My supers measure inside 17⅜ inches long, 12⅜ inches wide, and 4⅝ inches deep. Being made of ⅞ stuff, of course that makes the outside measure 19⅛ and 13⅜. They are for 8-frame hives, and take sections 4¼x4¼, no matter what the width of the section, for different widths can be used in the same super, and, for that matter, at the same time. Mine were made years ago, when ⅜ was generally accepted as a bee space. If I were having them made again, I would have them 1-16 or ⅛ inch shallower. But I should want to be

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very sure that the stuff would not shrink any, for less than ¼ would be likely to induce the bees to glue together the sections of 2 supers. Generally there is no trouble, but sometimes when bees are crowded they build comb in my ⅞-inch space.

6. You wouldn't find all these questions answered in the book, but I think you would find answers to a number that it might be profitable for you to ask.

Bees Tearing Down Foundation

I have had more or less trouble the past season from the bees gnawing out part of the comb foundation, both in brood-frames and supers.

1. What can I do to prevent bees from tearing down foundation in brood-frames where full sheets are used?

2. I learn from your writings that you use full sheets of thin super foundation in sections. Do you ever have any trouble from having these full sheets torn down in whole or in part? INDIANA.

ANSWERS.—1. I am not sure that I ever had bees gnaw away foundation in brood-frames except at the bottom. Bees seem to have a natural desire for a passage between the comb and the bottom-bar, so much so that even after a comb has been built in the frame clear down to the bottom-bar, if it is not built out very full they will gnaw it out again when there comes a time of idleness. The only secret of prevention that I know of is to give frames of foundation at a time when honey is coming in and when comb is being built. Especially is giving foundation in the fall to be avoided. Perhaps I ought to mention that if foundation comes down to within less than ¼ inch of the bottom-bar the bees will rarely build it down to the bottom-bar. Not only that, but they will gnaw it away until there is a passage-way of ¼ inch or more. Some have succeeded in getting the comb built down to the bottom-bar by reversing the comb, and others have succeeded by getting combs built in an upper story. My way is to have the bottom-bar in two halves, and have the foundation come down between these two halves.

2. Yes, I have had foundation gnawed in sections when they were left on after the bees quit work in them. They are worse about gnawing extra-thin foundation than thin. Not only do they gnaw the lower edge in sections, but also the sides. The remedy is not to leave sections on the hive when bees stop work. Generally I put sections on several days before the bees begin work in them, but somehow the bees don't gnaw before the harvest as they do afterward.

Uniting Colonies for the Harvest

1. How would it do to shake 2 colonies together at the beginning of the white honey-flow, where each is not strong enough to do good work in sections? Would they fight?

2. If I take away one queen and put on another hive with the beeless brood-frames, and tier the two hives up, would not the brood, when hatched out, make as strong a colony as the one shaken, in a month's time or less; ready to work in sections on the buckwheat flow, which comes here the first of August?

3. I have wished increase. Could I not make 2 colonies from the beeless brood instead of one, by putting in another queen to one hive of the brood? NEW YORK.

ANSWERS.—1. It might work all right, for the strong colony would store where neither weak colony would. If you contemplate such management, it would be well to have the 2 colonies on the same stand, and then all the field-force would remain on that stand when one of the hives was removed. At the beginning of the honey harvest there is little danger of any fighting when uniting.

2. I am not sure whether I understood you, but as nearly as I can guess, you mean to take away all the brood from the 2 colonies, also the queen of one of the colonies, leaving on the old stand one queen and nearly all of the bees, and put the 2 stories of brood with the other queen on a new stand, of course having enough bees with the removed queen to prevent the chilling of brood. That ought to work all right; and the removed colony ought to be in good trim for buckwheat.

3. Sure; but of course neither of the 2 would be so strong for buckwheat as if left together. But there ought to be no trouble about their being strong for winter.

Moving Bees in the Fall

Can bees be moved in the fall, say the last of September or first of October? I want to move them 75 or 80 miles, either by rail or wagon. Can it be done without damage? I have never had any experience in moving bees in the fall, and would like to know from some one that has had. I have moved them in the spring, but that is the only time. WISCONSIN.

ANSWER.—For more than 20 years I have moved bees every fall, and never had any trouble. But I moved them only 5 miles or less. In the fall the combs are heavier with honey than in the spring, and there are also more bees. So you will see that there must be a little more care against breaking combs, as well as a little more care to have plenty of ventilation. Aside from this you ought to have no more trouble fall than spring. If you can have your choice as to time, it will be well to wait till as much after the first of October as you can, for the cooler it is the less danger of suffocation, although, of course, if you wait for severe winter weather there would be danger of the combs becoming brittle with the cold, and breaking.

Queen-Cells and Swarming

I started to keep bees last year. Reading your "Forty Years Among the Bees," I found on page 186, the following passage:

"Generally, however, when eggs are found in cells, the next visit will find cells with grubs well advanced. When grubs are found in cells then the colony must be treated."

Why must the colony be treated? Why is it not sufficient simply to remove cells and grubs the same way incipient cells are destroyed, according to your instructions? NEW YORK.

ANSWER.—Your question involves more or less the whole matter of queen-cells as connected with swarming. When bees begin to think about swarming queen-cells are started. If there comes a dearth so that the outlook is rather discouraging for a new colony to set up housekeeping, or even if there is an approach to a dearth, the cells are likely to be destroyed, and swarming abandoned. The less advanced the cells are, if I am not mistaken in my observations, the less the discouragement needed to induce the bees to destroy them. After the cells are sealed, or near the sealing stage, it will take a good deal of discouragement in the way of dearth or bad weather to get the bees to destroy them.

Generally, however, there is not sufficient discouragement to make them abandon all idea of swarming, and once cells are started and have eggs in them, you may count on swarming in the great majority of cases, *if the bees are let alone.* Suppose now you open a hive and find cells with eggs or very young larvæ in them, and you destroy them. You may find, on looking 10 days later, that there are cells with eggs or very young larvæ in them again. That shows that the bees were not in desperate haste about swarming, and if these cells are again destroyed they will postpone swarming for another 10 days—possibly give up swarming altogether. But if larvæ are well advanced, then that shows that the bees were strongly set on swarming, for they had started cells and the queen had laid in them almost immediately after their previous cells were destroyed. Now if we destroy these well-advanced grubs, the bees will not always—perhaps not generally—wait to have another set of cells well advanced, but will swarm with quite small larvæ in the cells; possibly with only eggs in them. Now you get the answer to your question, after all this talk, which is that when well-advanced larvæ are in cells, if we destroy them the chances are that the bees will swarm before we get around again.

If I don't get the gist of your question, try again.

Reports and Experiences

Favorable Winter for Bees

The winter here is very favorable for bees. They have had flights about right for best conditions. F. A. SNELL.

Milledgeville, Ill., Feb. 25.

Cellared Bees All Right

Bees are all right in the cellar so far. The weather is fine, but no day so far that bees outdoors would or could fly.

Farwell, Mich., Feb. 28. T. F. BINGHAM.

Good Prospect for a Crop

The prospect for the coming season is very bright for a good crop of honey. Bees are wintering very well in the cellar and outdoors. Though little snow has fallen, yet the ground has remained frozen for weeks at a time, thus protecting the clovers of all kinds. The many letters I receive every day indicate the same conditions prevailing everywhere—"prospects good." However, I am led to believe that in the case of even a fair crop of honey the coming season, some bee-keepers will find themselves not prepared. Last season was very poor on the average, and many bought supplies and had some left on hand; they were sorry they bought so much, and will not get any more until they have used up what they have on hand, which will last until about the middle of the season, or just the time when all factories and dealers are in a rush and are short on just what is wanted. Consequently, there will be much worry, vexation and complaint. Cattle farmers always are provided with enough feed and a little extra for cases of emergency from one season to another; but bee-keepers seldom consider the question of extras, or emergencies, until the last moment, and the loss occasioned by the delay very often amounts to a good deal. H. S. DUBY.

St. Anne, Ill., Feb. 22.

Oklahoma and Indian Territory as a Bee-Country, Etc.

On page 55, Dr. Miller makes an inquiry as to the value of northern Oklahoma or Indian Territory for keeping bees for profit. I have lived within a few rods of the north line of the Osage, Indian Territory, for over 26 years, and have kept bees for more than 5 years of that time, and I do not consider this a good country for bees—

1st. Because of a lack of nectar-bearing bloom.

2d. Because of the extremes of this climate; but by selecting a protected locality and raising plenty of nectar-bearing bloom, a fair business might be attained.

POISONED BY BEE-STING.—Remedy: Put oil on the part stung, then cover with common soda. Eat oil sardines, or take broken doses of olive oil. This will fortify the sys-

American Bee Journal

tem to some extent against insect or ivy poison. (See page 16.)

"A millionaire egg-laying queen-bee induced to deposit her 5 years' batch of eggs in 2 or 3 years." Although I live about 100 miles west of Missouri, I will have to ask Mr. Doolittle to show me. I have heard it said, to make a hen lay, run her up hill; but one of my neighbors says to feed her kaffir corn beats running her up hill; next an Oklahoma man comes to the front and says if you want your hen to lay 2 eggs per day, feed her cowpeas; but how do you work the queen-bee? (See page 67.) I. M. NEWMAN.

Hewins, Kans.

T-Super vs. Wide Frames

There seems to be such a fuss between the T and the wide-frame super. I use a cross between both. I use plain sections and fences, and by driving a large flat-headed tack (about ⅝-inch in diameter) into the bottom-end of the 3 center cleats on the fence so that the heads are about in line with the bottom end of the end-cleats, the sections can rest on the tack heads, and the fences rest on the strips of tin that are nailed on the under edge of the super. By placing a row of sections in the super, the fence can be pushed up and the tack-heads catch under the sections; another row, and another fence, and so on, until the super is full. Springs are used for compression. I got 350 pounds of honey and 5 swarms from 5 colonies last year—50 pounds comb and 300 pounds of extracted.

Sioux City, Iowa, Feb. 18. PETER BOHM.

Something on Swarming

"All the experiments that have come to me in *definite* form have been made with 8-frame hives, and colonies in such hives have been regarded as more likely to swarm than larger-sized. I wonder if a great many things are not taken for granted."—T. F. BINGHAM, page 96.

Mr. Bingham, in the same paragraph, asks if any one has made a success of non-swarming with the 10-frame hive. Thinking that some experiments I have made with a hive much smaller than even the 8-frame dovetailed, may be of interest in connection with the extract above, I give them, mentioning only such details as could in any way have influenced the results.

Suspecting (1) that possibly there is a minimum of number below which bees will not *voluntarily* swarm, or (2) that swarming *might* be traced to the fatigue of the queen after the great spring laying, I began in 1904 a series of tests that would apply to either idea. The hive used is sectional, each chamber 5¾ inches deep. In that year I chose 2 rather weak colonies, removed the lower brood-chamber, and confined the queen to 8 frames, or about 975 cubic inches of brood-room. One stood out in the sun, and the other was protected till nearly noon by a peach-tree. Hive-entrances were full width, and ⅛ inch deep, just as in all my hives. They were run for both extracted and comb honey. By June 10 each queen had everything filled, and kept it so till Sept. 1, forcing all the honey, and no little of it, either, into the supers. Nearly all colonies in hives not contracted swarmed—those in little hives did not.

Not feeling so timid in 1905 I selected, in the latter part of May, 30 of my best colonies, taking such only as had queens reared in 1904. Nineteen of these were treated exactly as the 2 had been in 1904, except that 6 of them, after being contracted, were reduced to 3 double colonies, the queens in each double being separated by a zinc board. These doubles soon became powerful colonies, and on June 15, 2 of them swarmed, all 4 young queens coming out; that is, 4 contracted colonies out of 6 that were doubled up by 2's, swarmed. This result seemed to point toward the "minimum of number" when compared with results in the remaining 13, for of these but one swarmed, and this swarm seemed to follow the accidental death of the queen.

The remaining 11 of the 30 were contracted to 10 frames, or about 1211 cubic inches. Of these one swarmed.

To recapitulate: Four out of 6 reduced to 975 cubic inches and doubled up by 2's, each colony retaining its queen, swarmed. One of 13 contracted to 975 cubic inches swarmed, appearances indicating the death of the queen. The 13 were singles. One of 11 reduced to 1211 cubic inches swarmed. Of those colonies in uncontracted hives in the same yard, close to 60 percent swarmed.

Inferring from these results that 975 cubic inches was smaller than necessary, and 1211 a little too large, 40 colonies in 1906 were reduced to 9 frames, or about 1080 cubic inches. They were given the same general treatment as to shade, ventilation, and super-room that all others in the same yard received. None of the 40 swarmed, but it was not a swarming season.

It may be well to state that in these experiments every queen used was in her second year, and none was restricted to fewer combs than she had in use when the contracting was done.

Though nothing is established, the results seem to indicate that very low contracting in early spring may tend to prevent swarming. I have a strong suspicion that if the queen can be kept from overwork, bees will not swarm. This is contrary to much that has "been taken for granted," but a great deal might be said in its favor.

E. W. DIEFENDORF.

Otterville, Mo., Feb. 11.

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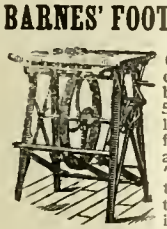

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Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.

WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Feb. 9.—The demand for extracted amber honey has brightened in the east 3 weeks. Amber honey in barrels at 6½@7½c, according to the quality and the quantity purchased. Fancy white extracted honey selling at 8@9c in cans. Comb honey is a drag on the market, fancy selling at 14@16c. Beeswax, 32c. for choice grade.

THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, Jan. 25.—The market on comb honey is rather easy. Prices rule in jobbing ways from 14@14½c; single cases 16c for No. 1 white; off grades not wanted at any price. Extracted is very firm. Light amber in barrels, 6@6½c; white clover in barrels, 7½c; in cans, 8½c. Beeswax, 30c, delivered.

C. H. W. WEBER.

KANSAS CITY, Jan. 25—The receipts of comb honey have been more liberal during the last week or two, and the demand light, market weaker. The market is practically bare of extracted, and there is quite a little inquiry. We quote: No. 1 white comb, 24 sec. cases, $3.10; No. 2, $2.75; amber, $2.50, Extracted, white, 7½@8c; amber, 6½@7c. Beeswax, 27c.

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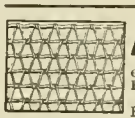

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IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

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We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

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Mention Bee Journal when writing.

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I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1.75.

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are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them? Have you read our Catalog?

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are not excelled for durability, fine workmanship, and practical utility. Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

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We are always in the market for

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47th Year MARCH 14, 1907 Number 11

AMERICAN BEE JOURNAL

APIARY OF OTTO BANKER, OF SLEEPY EYE, MINN.
(See page 206)

A HATFUL OF CALIFORNIA WINTER FLOWERS.
(See page 214)

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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are just the thing.

We send them by Return Mail

O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

As most of our readers know, we have got-tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

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Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

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GREATEST ✻ POLITICAL ✻ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

Standard-Bred Italian
FREE
PREMIUM QUEENS

We are booking orders now for those Fine **Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

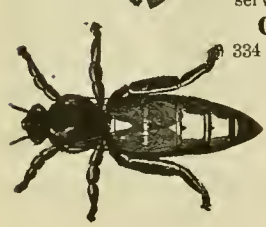
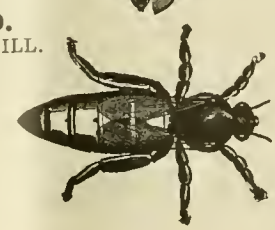
George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

BEE-BOOKS

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334 DEARBORN STREET, - CHICAGO, ILL.

Advanced Bee-Culture. Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and helpful writer. You should read his book; 330 pages; bound in cloth, and beautifully illustrated. Price, $1.20.

A B C of Bee-Culture, by A. I. & E. R. Root.—A cyclopedia of over 500 pages, describing everything pertaining to the care of the honey-bees. Contains about 400 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

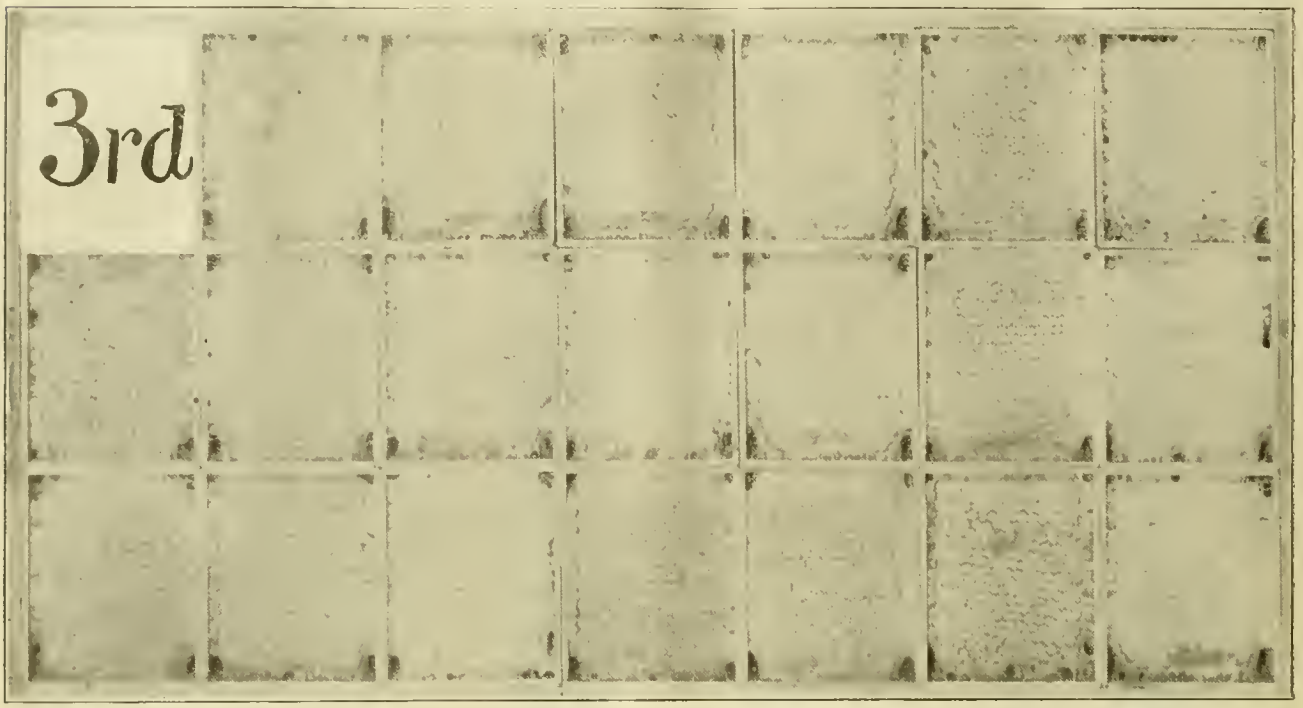
Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each ocupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.

HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



More Honey

(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

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* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., MARCH 14, 1907 | Vol. XLVII—No. 11

Sugar and Honey for Pulmonary Consumption

In European scientific circles interest has been aroused in the experiments of two Italian physicians, Prof. Massalongo and Dr. C. Daino, in the treatment of pulmonary consumption. Besides the ordinary diet, sugar was administered in increasingly large doses, from 100 to 500 grams (3½ to 17½ ounces) per day. The patients increased rapidly in weight, some gaining even 20 to 30 pounds in 2 or 3 months. The honey was well borne, but in some cases it was considered advisable to dilute it with milk, black coffee, or a few teaspoonfuls of bitter tincture.

Commenting upon this in Praktischer Wegweiser, Jul. Herter suggests the substitutinn of honey for sugar, as being pleasanter, and better for weak digestions. One would naturally think that consumptives would prefer honey to the by no means luscious cod-liver oil that has been used in such large quantities.

Young Queen Swarming, and Leaving Mother

Marking a queen with paint, so as to be able to identify her afterward, has been practised to some extent across the water. In Prak. Wegweiser it is said that this practise has led to the astonisbing discovery that in one case a young queen went with the first swarm, the mother remaining and going with an afterswarm.

If thia be at all a common thing, it surely must have been observed in this country more than once. A large proportion of American bee-keepers clip their queens, and this they have done for years. Has any one a case to report in which the clipped queen has been found doing duty in the mother colony after the departure of a swarm with a young queen?

Granulated Honey for Bee-Candy

The British Bee Journal says:

Granulated honey may be used as bee-candy if made stiff enough by kneading into it sufficient castor-sugar for the purpose.

C. P. Dadant uses the granulated honey without any sugar; flattening it upon the top-bars toward the back part of the hive.

No-Bee-Way Sections and Fences in England

In reply to the question, "Is the no-bee-way section an improvement on the old style?" The British Bee Journal replies:

It appears to be definitely settled by the great majority of bee-keepers in this country that the older style of section is preferable to the "no-bee-way" and the fence separator necessary for use with the latter.

Reliability of Linden or Basswood

Prak. Wegweiser copies from Die Biene u. ihre Zucht a paragraph which claims that one reason that lindens sometimes fail to secrete is because of peculiarity of soil; but that all lindens fail when they have attained a certain age, and that not such a very great age. Even though very old trees are visited by bees, it is only for their pollen. But does not so careful an observer as G. M. Doolittle say that lindens yield no pollen?

That Dead Bee With Pollen

A note from a critic of our genial critic, the "Aftertbinker," says:

"Mr. Hasty, page 152, questions thus: 'Will the poet, on page 27, take notice that bees don't die (except by violence) with pollen on their legs?' In spite of his 'unreliable glasses,' Mr. Hasty usually has a very keen vision. How does it come, Mr. Editor, that he haa never taken note of bees with loads of pollen lying dead near the hives on chill days? And how does it come that he failed to see the cause of death when the poet said the poor little thing was stiffened with death and *with cold?*"

Locality, perhaps. It is true that many a bee-keeper has seen such bees lying dead without any marks of violence; but are you sure that such chill days occur in our "Afterthinker's" locality? It may be that he does not need more reliable glasses, only a larger vision.

Great Value of Alfalfa Pollen

The Australasian Bee-Keeper reports an address by Dr. Cherry, Director of Agriculture, before the Victorian bee-keepers, in which he strongly urged the cultivation of alfalfa, or lucerne, giving as one reason the superior value of its pollen. He said:

The bees will derive very much benefit from the pollen they obtain from it. From the analysis of the samples of pollen submitted to me, it will be seen that cultivated plants give the best result in protein; as much as 27 percent is shown on the table—eucalyptus 20 percent, weeds 10 percent. If we were to generalize we might see the more valuable the fruit the better the nitrogen. Lucerne produces more protein than any other plant that we are acquainted with.

How Long are Swarms Provisioned?

Three days will perhaps be the general answer; but a case of 5 days is reported in Prak. Wegweiser. The swarm was settled on a tree, and held there by rainy weather.

Spraying Fruit-Bloom

We have received the following from Mr. C. P. Dadant, of Hamilton, Ill., who is a member of the Legislative Committee of the Illinois State Bee-Keepers' Association:

MR. EDITOR:—It appears that in Italy they now have another enemy of the bee in the olive-growers. They have lately been experimenting upon a new preparation to destroy an insect that preys upon the olives, and this preparation also kills the bees. According to the February number of L'Apicoltore, of Milan, this matter is mentioned in the Journal of Agriculture, of Tuscany, by a bee-keeper, Ippolito Pestellini, of Florence, who asserts that wherever this new method is used the bees are all killed. This is somewhat in the line of the bloom-spray against which the American bee-keepers are aiming to take

American Bee Journal

action. There is certainly a possibility of destroying injurious insects without at the same time also destroying the useful ones. We understand that the preparation above named is made in part with honey. It is rather bad to use the bee's product to kill bees. But it would be bad in any case, even if no honey were used, to kill the bees in an attempt to save a crop from partial destruction.

I have here a very short letter, just received from an old German, on the spraying subject. Permit me to add it to the testimony already gathered on the same question:

PLEASANT PLAIN, OHIO, Feb. 21, 1907.
MR. DADANT:—I had, 2 years ago, 32 colonies of bees; the farmers commenced to spray their fruit-trees, and killed my bees, so now I have but 2 colonies. So you will see I have quit the business. Don't want to be bothered with them. W. Y.

No comments are needed.

C. P. DADANT.

Since the foregoing came in, we have received this information from Mr. Dadant:

EDITOR YORK:—The Bill to prevent the spraying of fruit-trees in bloom was killed in the Senate Committee, in Springfield, by Senator Dunlap, chairman of the committee. He positively asserted that intelligent horticulturists will no longer spray their fruit-trees during bloom, because spraying during bloom is an injury to the blossom. He said that it was therefore unnecessary to load the statutes with a measure that would be useless and might give opportunity to ill-intentioned apiarists to cause trouble to horticulturists if they happened to begin spraying while there still was a trace of bloom on the trees.

In private conversation with the writer, Senator Dunlap said that he knew of dealers in sprayers, who had formerly advised spraying during bloom, and who had become convinced that it was a mistake, and would therefore cease to recommend it.

It behooves the bee-keepers to keep a vigilant eye upon this matter, and inform their neighbor horticulturists of these things. Such a leading horticulturist as Senator Dunlap is authority on tree-spraying, and his public statement is of value to us in helping to stop the practise of misapplied spraying. It may be that this will have the result of putting a stop to bloom-spraying. C. P. DADANT.

The Apiary of Otto Banker is shown on the first page. When sending the picture he wrote thus, under date of Feb. 9, 1907:

I did not get any honey last season on account of being so wet the bees could not gather it, and the frogs would sit at the entrances when the bees did work and catch most of them as they alighted. The strongest colonies got enough honey to winter on, but the weaker ones we had to feed. I had 135 colonies, and did not get honey enough for my own use.

My bees are wintering very well so far—54 colonies in the cellar and the rest in chaff hives outdoors.

In the picture I am standing on a hive, and the other two people are neighbors of mine. My storehouse is located back of me, and the other building shown in white is my house. I could not get a full view of the apiary on account of so much shade. OTTO BANKER.

The Far-Western Bee-Keeper is the name of another bee-paper, whose first number (for March) has just come to our desk. It is a 20-page monthly (size of page 6x8¾ inches), and published at 50 cents a year, by Henry E. Horn, Riverside, Calif. It makes a very creditable appearance.

Lower Freight-Rates on Bees.—Mr. N. E. France, General Manager of the National Bee-Keepers' Association, sends us the following for publication:

The South Texas Bee-Keepers' Association met lately for business at the residence of Pres. E. J. Atchley, and by united effort on the part of the officers, a reduction on freight-rate from $1.85 per 100 pounds, on live bees in car-load lots, down to 79 cents per 100 pounds to all points in Kansas, Missouri, Oklahoma, and other Western points of the Ft. Worth and Denver railroad; and 81 cents to intermediate points in Colorado. This makes a bright future for the bee-industry of Southern Texas, and to get the old rate cut more than half gives cause of rejoicing.

We have put in an application to the Railroad Company to the effect that we want a ruling to go along with the reduced freight-rate—not to allow any one to load bees for shipment until such person first screens the car with wire-cloth in such a manner as will not allow bees to escape from the car while in transit. We feel sure we will get such ruling.

The South Texas Association was instrumental in getting a one-third reduction on bees shipped by express from Beeville to all points on the Wells Fargo lines, which reduction was later extended from other points. There are several cars of bees to go from Beeville this spring. This Association also secured a lower local freight-rate on honey several years ago.

We congratulate the Southwest Texas Bee-Keepers' Association on the good work it has been able to do. We regret to learn, however, that its president, E. J. Atchley, suffered a stroke of paralysis about a month ago. He is recovering, and doubtless will soon be "as good as new" again.

Preparing for Honey Advertising.—The committee appointed to advertise honey, and thus use the fund raised for such purpose by the Honey-Producers' League, send this for publication:

ARTICLES WANTED BY THE COMMITTEE ON ADVERTISING HONEY.

The $1408.27 raised by the Honey-Producers' League has been turned over to the National Association, and a committee appointed to spend that money in advertising honey and otherwise advancing its sales.

The first plan to be put into operation will be that of publishing in the general press, short articles setting forth the healthfulness, deliciousness, purity and desirability of honey as a food. The purpose for which these articles are written need not appear upon the surface. It is better that it should *not* appear, but there ought to be something about each article that would unconsciously lead the reader to have a better opinion of honey, to have greater confidence in its purity and healthfulness, or knowledge of its economic value as a food; that honey is not an expensive food, requires no cooking, no sweetening nor other special preparation, but is the "whole thing" ready for use; that choice bakings sweetened with honey do not dry up as quickly as sugar-sweetened goods. Also call attention to Pure Food Laws, and no adulterated honey now sold.

These articles should leave the reader with his mouth watering to test the true deliciousness of honey. The articles must be short—not over 300 to 400 words—and will be judged with reference to their value: 1st. Will this article attract attention and interest the general reader? 2d. Will the reader who is not acquainted with the use of honey be likely to investigate and use honey?

Of course, it would be an easy matter for us to employ one man to write a series of articles for this purpose, but the committee wishes to secure the very best that the country can produce, and takes this method of inviting everybody to send in articles of this nature. Not over 400 words, perhaps less to include the thought. Mail each article to W. Z. Hutchinson, Flint, Mich., who will read and mark them according to their merits. The best will be marked 10, next best 9, and so on. They will then be sent to R. L. Taylor, who will also read and mark the same. He will then send them to N. E. France, who will also mark them. The articles receiving the highest markings in the aggregate, will be used and their authors paid $5.00 each. Everybody is invited to contribute. No limit to the number of articles each person may send in. Perhaps 30 or more articles will be used.

Please write plainly on one side of the paper, or, better still, use a typewriter, if possible. N. E. FRANCE, Platteville, Wis.,
W. Z. HUTCHINSON, Flint, Mich.,
R. L. TAYLOR, Lapeer, Mich.,
Committee.

We hope our readers will accept the above invitation, and thus help the committee as well as themselves. The proposed advertising should help all producers of honey, although only a few people contributed to the fund of a little over $1400. But, perhaps, others will be glad to add to the fund by making donations to it from time to time. We suppose the committee would not object to this.

ANDREW D. PRYAL.
(See next page)

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ANDREW D. PRYAL

Among the few remaining bee-keepers of California may be named Andrew D. Pryal, of Oakland. He was born, as it were, one of Nature's noblemen. His earliest recollections were those of the trees, flowers, bees, and birds when he was a child upon his father's place in Ireland, where his father conducted the Crowhill Nurseries, in County Mayo, and there the son learned the business which he has followed the greater portion of his life. Owing to the harshness of the then land-laws of that land, coupled with the failure of crops, the father lost his holdings, and he and his family removed to England. There the younger Pryal worked as a landscape gardener most of the time, or until he came to America. For several years he lived in Alabama and Louisiana. In 1854 he went to California, where he has since resided.

He was not long in that State before he recognized the fact that gardening and horticulture offered great possibilities for the tiller of the soil in those directions. So he never "went to the mines," as nearly every early Californian did. He soon had a garden in San Francisco, where, in addition to raising plants, shrubs, flowers and strawberries, he also tended a patch of vegetables. In those days it was no uncommon thing to sell a rose-bush for the sum of $10, and other plants in like proportion.

Mr. Pryal held the first plant and tree auction that was held in San Francisco, and it is needless to say that the financial returns were quite satisfactory. His nursery was near what was then called "Russ's Garden," in the neighborhood of 6th and Folsom streets. Just after the big fire of last April, Mr. P. remarked that he "saw San Francisco almost houseless when he came there in the early days, and he had lived to see it practically houseless again, after it had a half-century of remarkable growth." Recently he made several visits to that city, and he was struck with the rapidity with which it is being rebuilt, and he called it the "old California pluck" that was again exerting itself.

After marrying, he assumed charge of the "Mission" gardens, at Mission San Jose, in Alameda county, the oldest in the vicinity of San Francisco. From there he was called to superintend the planting of some of the largest vineyards and orchards in the celebrated Napa Valley. Being a friend of United States Senator Gwin, that gentleman had him look after one of his big holdings in what is now almost in the center of Oakland. When the war broke out, the Senator wanted Mr. Pryal to purchase the property—something over 160 acres—but owing to its closeness to the bay, and, consequently the climate being more or less cold (he was then slightly subject to rheumatism), he decided not do so. He, however, purchased from the same person a small tract of land 4 miles further north, and lying close up to the foot-hills, which has been the family home ever since. There the climate is almost perfect. It is considered one of the prettiest spots, naturally, in the country, and it has been improved by judicious planting and cultivation. There Mr. Pryal conducted his nursery business and horticultural pursuits. He loved to experiment, and he has the honor of being the first person in the State to raise new varieties of fruits and vegetables, and this long before Luther Burbank became a resident of that State. In fact, he sold the latter, in the '70's, some of the trees that he (Burbank) used to help him in his experiments. One of Mr. P.'s worriments during his present illness, is that he can not get out and superintend the planting of a field to a new variety of potato of his originating, that he lays great store upon.

For years he has been a prominent citizen of his county. He held a position as member of the Horticultural Commission Board of Alameda for 21 years—the longest period any one man has held the office in that county. Then he was a member of the Oakland Board of Trade for several terms.

Mr. Pryal's wife, who died in December, 1896, was an estimable lady, and was the mother of 9 children, all of whom grew to manhood and womanhood, though 2 sons and 2 daughters are deceased. Those, as well as the remaining 3 sons and 2 daughters, attained to more or less prominence in their several callings. The parents gave them, in addition to a public school training, a Christian education—an inheritance they have reason to be thankful for.

It was in 1865 that Mr. Pryal secured his first bees—some 10 colonies in movable-frame hives. This apiary is in existence to-day, and it is probably the only apiary that has been continuously kept in one place for so long a period in California. Since 1876 the bees have been the care of his oldest son (W. A.), who has considerable reputation as a bee-keeper.

In 1866, Mr. Pryal was one of the trustees of the district school of which Albert J. King, an authority on bees, was teacher. Mr. King was afterwards publisher and editor of the Bee-Keepers' Magazine. The senior Mr. Pryal never claimed to be an expert in bee-matters—he was more of a student of insect life injurious to the plants, trees and vegetables of the Golden State.

Few Californians have rounded out a more honorable and useful life than has the subject of this sketch, who is now well passed the allotted three score and ten, and it is to be hoped that he will be restored to health and live as long as, or longer than, his father, who was over 90 years of age when he died.

The subject of the foregoing interesting sketch is the father of Mr. W. A. Pryal, who "reflects" on bees occasionally, the first installment of which appears in this issue of the American Bee Journal.

"W. A." was in Chicago during the Columbian Exposition, in 1893, when we had the rare privilege of making his acquaintance, which has grown into a prized friendship during the passing years, although over 2000 miles lies between us. He is an entertaining writer, which, with his bee-keeping experience and large familiarity with things apiarian in general, make him one of the best contributors a bee-paper can have.

The Chicago-Northwestern Convention Photograph was taken Dec. 6, 1906, which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

The Production of Comb Honey

BY ALLEN LATHAM.

A correspondent has requested that I write an article for the American Bee Journal describing the hive I use and the plan I follow in producing comb honey. Now it so happens that I do not depend upon my bees for a livelihood, my work with the bees being my avocation, and thus it follows that my plan and plans are forever undergoing a shake-up due to my love for experimenting. Also my profession—teaching—has occasioned more or less moving about, so that I have had to vary my methods to suit the varying local conditions. My method which I followed so successfully in the home of my youth proves impracticable where I now live. In this article I can give in a general way only the practice which I follow, and in doing this I fully realize that it is the plan generally followed by successful apiarists, and that I shall offer nothing new of great importance.

As to describing my hive: I hesitate, for space would scarcely allow a complete description, and without a complete description I could not do justice to the hive which I now use. Permit me therefore to state briefly that my hive is one of my own make, in many particulars like the hive I described in these columns somewhat over a year ago. It is double-walled, air-spaced, frames closed-end and hanging crosswise. The hive is set perfectly level, the inner bottom sloping to the front so that space under the front frames is an inch or more deep. The entrance is about one inch deep and full width of hive. I use 11 frames, inside measure 10x12 inches, the follower at the rear held by two st' springs. The super is of such size a. to take in a section-case holding 24 plain 4 1-4 sections, or 28 7-to- the-foot sections. Fence separators are used with the plain sections, and no separators with the other sort except on the outside rows. This latter device—sec-

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tions all solid with fence separator at each side between sections and side-wall of section-case—I tried during the last season with highly gratifying results, there being no sections but what would readily sell in the home market, and most of them would easily do to ship to distant market.

I have always made use of and advocated double supers, that is, an outer super-shell with separate case of sections to set within. This method gives much better results in comb honey production than can be got in single-walled supers. Formerly I practised letting the bees have access to space between the case and outer shell, but I now exclude the bees from that space.

I rarely wait till the bees begin to whiten the combs before putting on supers. If I did I should be bothered by swarming more than I am. I put on supers of sections in spring just as soon as I see "graduating nurse-bees" crowding into the space back of the follower, regardless of whether there is a honey-flow or not. This first super is usually well supplied with bait-sections, and often continues to be a bait-section case throughout the season.

If this case gets filled with good honey—big IF here—I remove it early; but as it is usually filled with a mixture of inferior honey and honey-dew in this locality, I leave it on as the *top super* till late in the season.

The bees generally take immediate possession of this first super and the hive is thus relieved of crowding. If the honey comes I do not allow the bees to crowd this case full—at the jeopardy of a crowded brood-nest and of swarming—but I early insert between it and the brood-chamber another super of new sections with full sheets of foundation. If the season continues good a third case is inserted. Whether this third case goes between the two cases already on the hive, or between the second case and the brood-chamber, is a matter to be decided by the condition of things about each particular colony, and also by the character of the flow and its duration. If the second super is nearly completed I sometimes raise both supers, and if the second super is only half-filled I insert a third case between the two.

This brings about the completion of the second super before the need of a fourth super comes; and upon the removal of the second super, the first and third supers become the first and second, the fourth being treated as a new third super. Number 1, as will be seen, is sacrificed for the good of the others. Bees will rarely swarm if this top super is filled, or nearly filled, with sealed honey, and between it and the brood-chamber stands a super of empty sections. I would not convey the idea that the top-super is a total loss. Far, from it, for if edible the honey is not hurt by its long stay at the top, and if unedible the poor grade of honey has been paying good interest by checking swarming.

It will be noted that my plan is to keep the bees lifting all honey to the supers, clearing constantly the brood-combs for the use of the queen.

This plan has worked well with me where there is an early flow with a more or less continuous flow till late in June. In July, when my best flow occurs, I plan, before the flow begins, to have 2 fresh supers ready for each colony. Bees almost never swarm with me during this flow from the sumac, and will fill supers whether they be next to the brood-chamber or away at the top of the tiered supers, provided the flow is of sufficient duration. By this time of the season the economic condition of the average colony is such that the swarming impulse but rarely comes into existence—only in the case of colonies that have "come on late" does it occur.

This method leaves me at the end of the season with a super from each colony which is often of poorly finished and inferior honey, sections badly propolized and not infrequently many uncapped corners with empty cells, but since I am troubled little by swarming, and since I usually get besides this inferior case from 2 to 4 other cases of fair to excellent sections, I willingly make the sacrifice.

I spoke above of using 7-to-the-foot sections without separators other than next the outer rows. This plan gives good results only when such supers are inserted between super and brood-chamber, and only when bees are so plentiful that they take possession of all the 28 sections at one time. Beginning work in the sections simultaneously they will, since the hive is level, make all combs meet half-way even without separators. As far as I can see, I can get 28 sections thus just as easily as I get 24 with fence separators, and the work in preparing the sections is somewhat less. Bottom-starters must always be used in case separators are dispensed with.

I feel somewhat guilty in offering this article, and do so only because I have been asked. I shall during the coming season employ a radically different method, but since it has not been thoroughly put to the test I will not offer it here. In a general way the plan outlined here is what I have followed with slight variations for a score of years.

Norwich, Conn.

Number of Colonies for the Pasture

BY E. F. ATWATER.

Dr. Miller's reply to "Utah," page 114, (the question being, "My bees have at least 300 acres of clover and alfafa within 2 miles. How many colonies can I pasture to be safe?") arouses my interest. Surely the nectar-producing qualities of plants must vary greatly in different regions. If Dr. Miller is correct, that 200 colonies might do well on 300 acres of white clover—*if* it yields—I would add: We have moved all our yards that were between Meridian and Boise, considering the country unfitted for profitable bee-keeping, yet this "tabbooed" district is simply grand for spring breeding, and hundreds, or even thousands, of acres of as fine white clover as one could wish, are covered with a mass of bloom during part of May, often all of June, with more or less bloom for many weeks later. The bees work on it quite industriously, but, as a rule the crops are very light. Through that district there is but little alfalfa—our great source of nectar.

Having spent 6 years here, the season of 1906 was the first in which white clover gave a good account of itself. Bees in any of our abandoned locations would have done well. I think that irrigation and cool nights are unfavorable to the secretion of nectar in the white clover bloom, as a general rule. Probably "Utah's" conditions are somewhat similar to those here. If he means that much of that 300 acres is sweet clover, even 10 percent of it, and he is so fortunate as to live where that plant yields abundantly, then he might be able to keep 300 or more colonies in one yard, if the alfalfa has also the habit of yielding abundantly.

Alfalfa certainly is a far more nearly constant source of profitable crops in the arid West than is white clover, but I should be seriously discouraged if only 300 acres were within easy range of an apiary. I have seen that much cut before it was of any value to bees, near some yards. If there is 1000 acres or more within 2 miles, some of it is usually allowed to bloom. Sometimes something delays one rancher, sometimes another. One year a tenant may cut early, another year another tenant may have different views and cut later.

I have in mind a range that I have never considered above the average good locality. Just such a range as you or I might risk 100 colonies on. A bee-keeper occupied it with 400 colonies in one yard, and has always averaged a fair crop, compared with other yards around him. In a season when no one else within a good many miles got any comb honey, he took 100 cases. Not because of the big apiary, but he had a little spurt of nectar and was prepared for it. Some of my own yards did not have even that little flow, though only 6 1-2 to 12 miles away. The subject of over-stocking is one of which we know but little.

Meridian, Idaho.

Something More on Hive-Making

BY G. C. GREINER.

As much as I dislike jangles and snappy disputes in publications that are intended to help our fellowmen in their undertakings, I find it sometimes necessary to correct and explain things when our arguments are misunderstood or misrepresented. The general trend of Mr. Bevins' article, on page 128, is plain evidence that we do not see things alike, and this from the simple fact that he takes his views from a very different standpoint from which mine are taken.

I did not mean to say that we *could not* make bee-hives out of all miscellaneous material. Of course we can, if we have no eye for improvements and up-to-date surroundings, and if we have plenty of time that we can not utilize to better advantage. From a financial

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standpoint we can not do it. If I have to belittle my own ability to bring out facts, belittle it is. I would not mislead the inexperienced for the sake of keeping or building up a mechanical reputation. At the high rate of wages paid at the present time for intelligent labor, a mechanic's time is too valuable to spend it making hives out of hap-hazard material, and if the person who undertakes it is no mechanic, he would bettera let the job alone, anyhow.

One of the most astonishing points in Mr. Bevins' argument is this: "A few shades difference between the thickness of lumber cuts no figure." In his way of looking at it, it may not; in mine, it cuts a big figure. The variation of a few shades in thickness would completely upset all our plans and calculations. A few shades difference in the thickness of the end-pieces would necessitate a few shades difference in the length of sides, and a few shades difference in the thickness of sides would necessitate a few shades difference in the length of cleats and cover-end-pieces, and so it would go all along indefinitely.

Reasonable accuracy does not amount to anything if we expect to do systematic work on a paying basis. We must have accuracy as close as mechanical skill can produce it; nothing short of that will insure uniformity in our outfits. And whilst we are speaking of accuracy, I wish to tell Mr. Bevins, that neither he nor any other person can cut one single hive-body end-piece as true as machine-work, or, as is necessary to put up hives in workmanlike manner.

In regard to time, the difference is still more striking. By the time he has his material for one single piece picked out, measured, and marked off, ready to use his handsaw, dozens can be cut by machinery, and before he ever gets the first piece cut, another dozen can be dropped. Where, then, is our gain, the "saving of much money," if we have to make many hives? It is right the other way: The more hives we have to make, the less we can afford to tinker with a lot of rubbish. Then there is so much other work, such as ripping, rabbeting, matching, tenoning, etc., that can not only be done so much faster, but incomparably better than handwork.

When we started bee-keeping some 30 years ago, we decided on 3-4 inch (I wished we had made it 7-8) for all thick hive-material except bottoms, which we made 7-8 inch. After making hives for a number of years, we had sorted out a lot of 3-4-inch lumber that was not adapted for hive-bodies or supers. To dispose of it to the best advantage, we decided, contrary to our established plan of uniformity, to use the same for bottoms. As long as we wintered bees in the cellars, this difference in thickness cut no figure, as Mr. B. says; but late years, since we are wintering bees in chaff-packed cases on the summer-stands, this little variation has caused quite an amount of trouble, and I regret that that change was ever made. The flight-holes don't come right. When packing for winter, I have to watch every hive to see whether the bottom is 3-4 or 7-8 inch thick, and make allowances accordingly. Uniformity in every particular will save us, soon or later, annoyances of a similar nature.

To cut the matter short, although it may be a repetition, I will give my views and advice in a nut-shell: Any mechanically inclined bee-keeper, who has access to the necessary machinery and can conveniently procure the material, can do well getting out his own hives and appliances. Otherwise, if he wishes to make use of his mechanical skill, it would be more profitable to order his supplies in the flat from one of our regular supply-manufacturers, and do his own nailing, painting, wiring, etc.—in short, do all the rest. If the stock desired should be different from any regular standard goods, then make out a list with exact description of shape and dimensions and send it to the firm you wish to patronize. You'll be surprised how close they will come to your measurement, to say nothing of the fine quality of their goods. It is a pleasure to work them up. This is my experience.

Outside of shipping-cases, there is only one part of our outfit—the hive-stand—that can be made out of box-lumber to any advantage and make reasonable accuracy answer. But by no means take it that they can be "thrown together." The better they are made, the less annoyances later on. Our leisure hours can be profitably utilized by building a few now and then, but it is the same with stands, and shipping-cases, too, as with all the rest—if we have to make many, the saw-table is the place to get out the stuff.

LaSalle, N. Y.

Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

(Continued from page 190)

THURSDAY MORNING SESSION.

The convention was addressed by Mr. P. W. Hodgetts, Secretary of the Ontario Bee-Keepers' Association, as follows:

IMPROVING THE BEE-KEEPING INDUSTRY

Since accepting the position of Secretary of the Provincial Bee-keepers' Association last fall I have been looking over your reports for the past 15 years. I have done this with the idea of finding out if possible just what you have been doing in the past, and what your aims are for the future. In 1895 I find that you had thirteen affiliated associations. In 1905, ten years later, eleven associations. In the years between the number varied from nine to twelve. In this respect your experience seems to have been very similar to that of the Fruit-growers' Association with which I have been more closely connected. I want therefore to tell you a little of what they have done in the past, and what they are striving to do at present.

The Ontario Fruit-growers' Association has now been in existence some forty-seven years and is, therefore, somewhat older than the Bee-keepers' Association. For about thirty or thirty-five years the association devoted the greater part of its time to the consideration of questions which are called purely educational. Such, for instance, as "Best Varieties for Planting," "Care of the Orchard," "Pruning," etc. It seemed as if the officers had got into this rut, if I may call it so, and were content to stay there. However, about ten years ago one of their most enterprising directors suggested that associations should be formed in various parts of the Province in affiliation with the Ontario association.

As the Provincial association was doing considerable work among amateur horticulturists, the first organization work was carried on among the horticultural societies in the cities and towns, with the result that the membership jumped to something over 5,000. The majority of these were, of course, amateur horticulturists only. Following this movement, it was suggested that local fruit-growers' associations should be formed in the larger apple-growing centers of the Province. Active canvassing was carried on, organizers sent out to attend a series of orchard meetings and with such gratifying results that some forty associations were formed, with a membership of almost 700. A constitution was drawn up by the Provincial association for the guidance of these local fruit-growers' associations, and the objects named there were also purely educational. With the formation of these two sets of affiliated associations and societies, the work of the Provincial association seemed to have assumed very great proportions, and the directors and officers were congratulating themselves on the success of both these movements.

Two years later, one would hardly have recognized the Provincial association. The horticultural societies had broken away, and the majority of the fruit-growers' associations had gone out

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of existence. The reasons were not hard to find. In regard to the latter, which were organized among purely professional fruit-growers, there was nothing to hold them together. The enthusiasm instilled in them by the organizer brought them to the meetings for perhaps the first year, but afterwards they were content to stay at home and obtain such information from the horticultural publications. The trouble with the horticultural societies was somewhat different. They claimed that it was impossible for them to receive full justice from a board of directors who were largely professional fruit-growers.

The directors of the Provincial association at their next annual meeting discussed the matter thoroughly, and, while not discouraged, decided to proceed more cautiously, and along sounder lines than they had been working in the past. It was discovered that there were in existence in the Province a few fruit-growers' associations, so-called, that had been working along commercial lines for a number of years with considerable success. Mention was also made of the formation of a number of such associations in Ohio and New York States, which had for their main object the better packing and shipping of the fruit grown by their members. As much information as possible was obtained in regard to this work, and at the annual meeting at Leamington, 1903, a manager of one of the largest of these associations in Ohio addressed the convention on the so-called co-operative movement among fruit-growers. One of his main contentions was that to hold fruit-growers together, or, in fact, any class of farmers, it was necessary to show them that it would mean more money in their pockets by joining an association. At the close of this convention a special committee of the Ontario association was appointed to undertake the formation of co-operative fruit shipping associations throughout the Province.

This work has now been carried on for three years, with the result that there were last year over twenty strong associations in existence throughout the Province, and the probability is that this number will be doubled during the present year. Every association reports that instead of having trouble in getting members they have had to turn great numbers away. The success of the movement, of course, lies in the fact that, where in former years farmers had been compelled to accept almost nothing for the product of their orchards, or in many cases had allowed it to rot on the ground during the last three years they have been receiving very handsome profits from the area in fruit. In some cases the profits have been so very high as compared with past methods that we have kept them quiet for fear of inducing too many to rush into the co-operative packing and shipping without proper leadership.

You may say that we have not yet accomplished our end, as these associations are purely commercial. Such is not the case, however, as almost every one of them has one or more meetings during the year, at which addresses are delivered on purely educational topics. In addition to this the profits from the orchards have so pleased the owners that they have begun to pay attention to the various educational matters in connection with the orchard, such as pruning, cultivation, use of clover, crops, etc. In addition to this, the by-laws of many of the associations compel the growers of the fruit to practice better methods of pruning and spraying, and in this way the interest of the farmer is increased on subjects which in former years he paid no attention to whatever.

The formation of these commercial associations has worked a wonderful change in the aims and methods of the Provincial association. The programme for its annual meeting is now arranged with a view to promoting the welfare of these associations in every way. An opportunity is given to each of them to report on the year's work, prominent authorities on all subjects relating to the packing, marketing, etc., are brought to deliver addresses. The subject of transportation, instead of being a small issue, as in former years, is now one of the leading topics at the meeting, and the strongest committee appointed is one dealing with matters affecting the transportation of the fruit crop.

The sum and substance of this matter from our experience is that some commercial aim seems necessary to get the farmers together and to hold their interest. Along with such commercial idea, there is no trouble in working in educational matter.

I have noticed in your annual reports that from time to time considerable discussion has arisen as to whether it is advisable to form too many of these associations or to increase your membership beyond its present members. The fear has been that production will increase to such an extent as to flood the market and lower prices. The same might have been said in regard to the fruit situation five years ago. The Ontario markets were evidently taking about all that they could handle, and no other markets seemed available for anything except perhaps our apple crop. It was pointed out, however, that large quantities of fruit were going into our Northwest Provinces from the United States. The Ontario men seemed to be lax in their method of handling the fruit, so that the west would not touch our fruit in any considerable quantity. This, however, has been remedied by the organization of local associations, and, where from one point two years ago one carload of fruit was sent to the west, the past season 60 carloads were shipped into Winnipeg for distribution throughout the Provinces of Manitoba, Saskatchewan and Alberta.

In regard to the apple markets, as soon as it was known that our fruit could be purchased in quantities and of even quality, the larger apple firms in Great Britain and France sent their buyers direct to Ontario, with the result that most of last season's crop has been bought f. o. b. here. Under the old system the fruit was gathered together by the packers right from the orchard and sent on consignment to the European markets, with very unsatisfactory results in most cases. A great deal of fruit was wasted in the orchards in many cases and fruit after being barrelled was exposed to all kinds of weather conditions before being placed on board cars, and even then did not receive proper attention en route to the places of destination. Now this has all been changed. The fruit is packed at the proper season, hauled into central packing houses, where it is properly graded and packed by the one set of experienced men. The purchaser now knows that he can depend on getting exactly what he desires, and, as the reputation of the firm is at stake there is very little chance for dissatisfaction from either party.

(Continued next week.)

Report of the Kansas Convention

The 4th Annual Meeting of the Kansas State Bee-Keepers' Association was held in Topeka, Dec. 27 and 28, 1906.

At 2:30 p. m. Pres. Dr. G. Bohrer called the meeting to order. The minutes of the previous year's meeting were read by the Secretary and afterward approved.

Pres. Bohrer appointed the following committee on amendments to the Constitution: E. Davidson, J. D. Smith, and J. J. Measer. They recommended that the office of treasurer be abolished, and that the secretary act as treasurer.

At the evening session C. P. Dadant, of Illinois, read a very instructive paper in "Bee-Culture vs. Horticulture," showing the importance of bees in the pollination of fruit-growing.

[See page 109 for this paper.—Ed.]

The present foul brood law was discussed, and it was unanimously agreed that it was deficient as a measure to stamp out the disease. Pres. Bohrer appointed the following committee to secure necessary amendments: O. A. Keene, J. J. Measer, and E. W. Dunham. It was thought that the law should allow the bee-inspector at least $3.00 per day instead of $2.00 as it now reads, and to have the power to go into any adjoining county if necessary where there is no inspector, should a case of foul brood or any other bee-disease appear that is of dangerous character.

Another change should be in the number of signatures to a petition, which should be reduced from 25 to 5, as many a county could not secure 25 bee-keepers to sign a petition; and if there were only a few, and foul brood be entrenched, it would soon become unmanageable. For this reason, only 5 signatures on a petition is asked.

The second day's session was called to order by Pres. Bohrer at 10 a. m. It was voted to hold the next meeting at Hutchinson during the week of the State Fair.

The following officers were elected for the ensuing year: President, Dr. G. Bohrer, of Lyons; Vice-President, E. W. Dunham, of Topeka; Secretary and Treasurer, O. A. Keene, of Topeka.

Several questions of interest were

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discussed by those present, and Mr. J. S. Young explained his system of queen-rearing. It was voted to ask the State for an appropriation for a Pure-Queen Breeding Station at the College at Manhattan. Pres. Bohrer appointed Dr. H. A. Warner and O. A. Keene to investigate the matter.

At 7:30 p. m., a banquet for all the members of the Association was given at the National Hotel, after which another session was held, during which many important questions were discussed.

This was the largest and most instructive meeting ever held by the Association. It is hoped that there may be even a larger attendance at the next meeting, which, as above mentioned, is to be held at Hutchinson during the State Fair.

O. A. KEENE, *Sec.*

Conducted by EMMA M. WILSON, Marengo, Ill.

Some Practical Uses of Honey

Some time ago Miss Wilson requested that the sisters give some practical uses for honey. Ever since then I have had it in my mind to comply with said request to the best of my ability, but have kept putting it off until a more convenient season—until now, the convenient season having arrived, I will drop a few suggestions right here before the subject further eludes me.

Sisters, do you have "Boston baked beans" of your own manufacture at your homes? If so, try the use of honey in place of molasses. *De*-licious!

Quite a variation of coatings used in the making of cakes may be obtained by wholly or partially substituting honey for the amount of sugar required. Personally, I prefer a *partial* substitution.

The use of honey in the manufacture of home-made candies renders them more palatable, and adds greatly to the keeping qualities of all kinds, which are inclined to harden rapidly. Cookies also retain their moisture, and remain soft and of apparent freshness much longer when honey is used in their make-up.

In the use of honey in cooking one must be guarded in reference to burning, as it burns more easily than sugar, and a double boiler or similar arrangement comes into play nicely.

We see honey-cured meats advertised as something superior. (Indeed, when did we ever hear of anything which had the most remote connection with honey, advertised as of any quality except superior, from the expression, "The land which floweth with milk and honey," an expression indicative of all sufficiency, down the whole procession?) As I said, these meats are pronounced superior, but as honey is so easily converted into vinegar, I have never ventured along this line, but in cooking meats I have added a little honey with appreciative results.

I am satisfied that the chief reason that honey is not more generally used in cookery, lies not in that it fails to be an improvement, but that it is generally conceded to be too delicate a luxury for so common a use.

The use of honey instead of sugar doubles the value of any cough syrup, and the family having access to honey in plenty that can not concoct cough syrups equal, or superior, to those found on sale is indeed in straits. The foundation of these may be a decoction of any herb or herbs of known value, with honey added to the strained liquor to form a syrup. One of the most simple is to boil 3 medium-sized potatoes (with their jackets on), and when done remove and pour into the potato water ½ cupful of honey. Strain, and drink while hot. This preparation may be varied by the addition of anything you know to have been beneficial to yourself or to any of your friends.

Lemon-juice, flax-seed tea, or the two together, flavored and sweetened with honey, are great aids in the way of alleviation and prolonging life in the case of consumption.

A raw egg beaten in a pint cup, and the cup filled with hot water, sweetened liberally with honey, furnishes both nourishment and medicine in case of colds.

I am forcibly reminded of "carrying coals to Newcastle," when I see a bee-keeper coming out of a drugstore with a bottle of world-wide heralded "honey and tar," or "hoarhound, honey and tar," and I can scarcely further analyze my feelings more than to say they are a queer mixture of downright sympathy, not unalloyed, because, as I said before, mixed with vain regrets over the short-sightedness of some people, and vain attempts to repress my risibilities altogether when the ridiculous point of view looms up. Just to think people will do such tricks to the amusement of even the clerk who makes the sale, when an equally efficient remedy might be had at home, by the use of his own unadulterated honey, and hoarhound of his own raising, and that, too, almost without price. But he will tell you there are other ingredients in world-renowned cough remedies which are not, and can not be, produced on the farm, or within the bee-yard. What of it? A few cents worth of the products of the apiary will secure them at a much cheaper rate than when bought already compounded.

Many families eat honey daily as a preventive of colds, and claim its use renders them almost exempt.

How many sisters know that the use of honey in the water used for toilet purposes prevents and cures chapped hands, keeping the cuticle soft and free from dryness, so that it is of almost a satin finish? Honey, almond meal, and lemon-juice, form a fine complexion paste. In fact, honey forms an important factor in all emollients. A little each of honey and flour mixed together, and spread on cloth, applied to boils and similar afflictions, will soon number their days.

Beeswax is a controlling ingredient in many of the most popular salves that have been placed on the market.

I think I now have about performed my duty relating to this subject; and if I have failed to enumerate some of the pet uses of honey with the other sisters, let them make it known.

This is one way to advertise our products, and if all keep their mouths shut, as if it were a sin to herald the value of our commodities, while every other class of people put forward not only claims which can be depended upon, but some which are largely imaginary, we can but expect they will be kept hustling while we stand with our hands in our pockets, as it were, and "nothin' doin'."

In this connection the Pure Food Law will no doubt aid greatly. Dealers are only too glad to buy of the producer, fearing the effects that have so generally borne upon honey that passed through several hands in the past. This tends to cut off the career of the artificial product and make corresponding room for the natural. The new Law will do more for our industry than acting as a good salesman, in the way of compelling bee-keepers themselves to look to the condition and quality of their honey. The publishers of Gleanings took the trouble to interview two of our leading dealers as to its effect on honey sales. R. A. Burnett concluded his answer with this sentence: "If the bee-keepers will let their honey ripen before taking it off the hives, it will do more than any law passed in furthering its consumption."

Truth, if ever it was uttered; but is it not humiliating, that we must be reminded there are those among us who are so careless, thoughtless, or dishonest, as to offer such inferior honey?

How long would we ourselves patronize an institution that would insult us by offering us fermented or sour food of any kind? If not already in this latter condition, no one knows better than a bee-keeper how quickly unripe honey will reach this stage. How frequently we meet with those who dare not touch honey, and many times I have thought the trouble from which they claimed they suffered might have been caused by unripe honey.

One of my best customers, at one time, could not be prevailed upon to taste honey, but once his scruples had

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been overcome, I succeeded in getting him to make one more test, which was followed by no bad effects; he ever after bought of me all of his honey, of which he was inordinately fond, and hesitated not to discard *all* other.

Now, why should honey from my apiary be innocent of harm, or after-effects, and that from others guilty? There could not possibly have been any difference except that between *unripe* and *well cured* honey. The honey partaken of was all in the extracted form. Had comb honey been used in one case, and extracted in the other, one would naturally conclude that the *wax* probably produced the distress.

As to unripe honey, Gleanings has this to say:

"The suggestion of Mr. Burnett is a very good one, especially as unripe honey on the market will suggest adulteration even if it does not make the producer of it actually *liable* under the new law. We should be a little fearful, at least, that some chemist would declare some unripe honey as adulterated, and it might be very difficult for the producer to prove his innocence of the charge. All bee-keepers, therefore, had better err on the safe side by seeing to it that all honey shipped from their yards is thoroughly ripened, with a good body and first-class flavor for the kind of honey sold.

"It is well to remember that the United States standard for honey allows only 25 per cent of water, and any in excess of this would *certainly* be construed as an adulteration. Producers generally should 'paste this in their hats.'"

So it is evident that if we are inclined to be the least dishonest, Uncle Sam will be right after us; and as to being careless, we may awake to the fact that there is in existence such a thing as *criminal* carelessness.

Miami, Mo. MARY E. NULL.

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

Making Increase for Out-Apiaries

A bee-keeper wishes to make sufficient increase to start an out-apiary, and wishes to know how to proceed, even if he does not get a crop of honey at the out-apiary the first season. At the home-apiary he has about as many colonies as he wants to keep at that place, with perhaps a dozen weak colonies he thinks "not worth considering."

Having started out-yards with these same conditions, I will tell of two ways in which to make the increase, the *weak colonies* "not worth considering" playing a great part in each of these.

The time of our main honey-flow must be considered. If it comes early in the season, all colonies for surplus storing must be built up to populous colonies in time for this flow. Hence, it will be seen that there is not much time in which colonies can be built up; and bearing this in mind we plan making the increase for the new yard accordingly.

The "dozen weak colonies not worth considering" are the very ones that *are* "considered" in this case. While the strong colonies are left on the old place, and gotten in readiness for the early flow, the weaklings are taken to the new location. Here they are fed on sugar syrup to stimulate them and build up as rapidly as possible. For this purpose out-door feeding in a wholesale way, giving enough syrup each day to make an artificial flow as much as possible like a light honey-flow, works nicely.

The syrup should be fed rather thin, so the bees will be at work all day, and less trouble will result from getting a fracas started which would likely be caused by feeding thick syrup or honey. The feeding should be done a little distance from the apiary, necessitating the bees to carry the feed home, much as when gotten from the fields. If fruit-bloom has been on in addition to the feeding, the bees will be stimulated the more, besides getting a supply of natural pollen, which should otherwise have been supplied them artificially also.

As soon as brood-rearing has advanced well enough, and the weather is favorable, the colonies are increased by dividing them. If possible, laying queens should be procured for this first division, as it is yet too early to rear good queens. Only a dozen queens need be bought of some of our Southern breeders, who generally carry over a lot of them through the winter. Out of these some may prove very good, so that young queens may be reared from them for subsequent divisions, if they are better than any of those already in the yard.

To divide the colonies, about two-thirds of the brood—mainly sealed—is given to the bees on a new stand, since the old field-bees return to the old stand. The old queen is left in the hive on the old stand, while the new colony—which now contains mostly young bees, and to which a new queen is much more easily and safely introduced—receives the new queen. The entrances of the hives are contracted by means of grass, weeds or moss, which is preferable to closing entrances with wood or such other material, as the bees can easily enlarge the entrances to the needs of the colonies. To hasten the work feeding is kept up unless a sufficient honey-flow is now on.

As soon as these colonies are strong enough subsequent divisions are made in the same way, but the queens for the new divisions may be reared. Giving laying queens, however, will hasten the work, and give quicker results, although the first expense of the queens may be an important item with the apiarist. Full frames of comb foundation should be used to fill up the hives when dividing, if combs are not on hand. Thus a good use is made of the weak colonies, and an out-yard established which should be in good shape by the following winter.

If, however, the main honey-flow comes later in the season, and there is time in which to build the colonies up for it, I would proceed so: Now the strong colonies are used. New hives are fixed up, one for each colony, and a bottom-board fastened to the brood-chamber with the entrance closed with wire-cloth. Each brood-chamber is fitted with a division or follower board, or a full set of frames filled with foundation. From each strong colony now are drawn 3 combs of brood and honey, and a lot of bees. These are placed in one of the prepared hives, and the cover is securely put on. Frames of foundation from the prepared hives are given to the colonies from which the combs are taken, placing them on each side of the cluster of the brood-nest. These colonies will build up in time for the honey-flow, and there should be less danger of swarming.

From the weak colonies one or 2 combs should have been taken also, and placed in each of the prepared hives, thus making 4 or 5 combs of brood and honey, with the rest full sheets of foundation. These are then at once moved to their location in the new yard, the hives and entrances opened, and a laying queen in an introducing cage given to each, when feeding, to build them up, is resorted to as in the other case. The division-boards are used on the outside of the number of combs covered by the cluster, and is moved outward as fast as more of the frames of foundation are given to the bees from outside of the brood-nest. In this case the colonies have time to build up strong enough in both yards, so that a good crop of surplus honey may be obtained.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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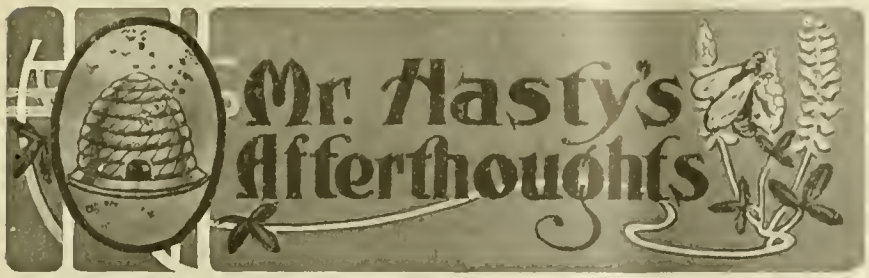

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Sweet Clover

I half believe that Wm. Stolley's queer sweet clover was a genuine sweet clover, after all. The total absence of nectar may be a freak, not to be expected another year. Melilotus is a new genus split out of Trifolium; and there are several Trifoliums that are annual. Moreover, I think I have read that there is an annual Melilotus—but the color, if I remember right, was blue. Developing a yellow kind out of a blue one might not be impossible. Mr. Stolley's testimony, that it looked right, and especially that it smelled right, ought to count for considerable. Page 49.

Hive-Lifting Devices.

At least two needed points in an ideal super-lifter Grant Stanley did not talk about. It should hold the hive proper down as well as lift the supers up. Moreover (and there's the awful rub), it should hold the brood-combs down. In lifting supers by main force it develops that 2 or 3 of the brood-combs will hang on and lift also—a state of things which is very highly to be reprobated, especially the way they change their minds and drop off after a bit. And I think, for this one time, that the wheels Mr. S. has in his head (or, say mind) are also needful and proper if the machine is to pay for its storage-room. Page 49.

Texas Barberry.

The Texas barberry seems to differ greatly from ours—the bush smaller and the fruit much larger; also sweet enough that it can be eaten. Ours is available only for preserves; but preserved with sufficient sugar its reputation is very high. Page 51.

Chemicals in Making Vinegar.

Isn't it rather a novelty to put in three kinds of chemicals into sweetened water when you start to make vinegar? Wonder what *object* the Arizona wiseheads have in view in ordering them in. Guessing while on the run, maybe they precipitate some things from the fluid which might otherwise stay in the vinegar to its detriment. Page 65.

Spiders as Bee-Enemies.

It's rather a new revelation of our enemy (and friend), the spider, that Allen Latham gives. He figures out 50 slain bees to the square rod, and thousands of such square rods within a range. Pretty serious. I have been calling the spider my friend, on the whole, and not much grudging the occasional bee taken. I still think that in my locality the loss is not *very* great. Still, it may be more than I have thought. Let's "watch out," and so know a little more definitely about it, each for his own corner. Certainly we are well-wishers to our spiders, having a full diet of young cockroaches and newly-hatched moth-larvæ. That Kilkenny cat fight between the leaping spider and the warlike bee was worth forming a ring around—Spider fatally bit the bee, and bee fatally stung the spider. Perhaps we can discriminate between species—hire the boys to war on our big and distant enemies, and at the same time smile on those that are mainly our friends. Page 68.

Value of Honey as a Remedy.

If butter and honey well whipped together will produce the same medical effects as cod liver oil, patients ought to shout for joy. Worth remembering that honey at bed time is highly recommended for obstinate constipation, and also for nervous insomnia. Multitudes of sufferers from the former, and many from the latter. Thanks to C. P. Dadant for his excellent anthology of that French medical pamphlet. Page 69.

Putting Bees Out and In, In March.

A trifle surprised to hear Doolittle advising to put bees out in March, and back again. Guess it's all right, though. Different teachers likely to differ some as to *how much* uneasiness is required to justify setting out. Page 67.

Making Bee-Candy.

So bee-candy should be stirred *after* the time when it is done and taken from the fire, and on until it gets so cool that it has to be poured. Less sticky and less liable to daub the bees by so doing. Apparently here is a valuable kink which half of us have been losing. Page 73.

Railroads and Lower Freight-Rates.

We rightly blame the railroads for many things; but we can not blame them for studying their damage bills with earnest attention and purpose. No putting any article into cheaper rates so long as there is a constant hurrah of damage claims. In other words, the money received for carrying honey must pay the transportation and the bills for damages, too—as no railroad proposes to do business except at a profit. I hope we hear. Page 85.

Conducted by J. L. Byer, Markham, Ont.

Loss of Queens in Mating

The substance for the following dialogue was sent me by a friend, with the request that I "fix it up" for Canadian Beedom. In so far as I have been guilty of plagiarism in adopting the conversational style, apologies are tendered Mr. Doolittle:

"Good morning, Mr. Smith. Pretty cold day."

"Yes, Mr. Jones, it is cold; 17 below at our place this morning, and a strong wind blowing."

"By the way, Mr. Smith, I don't believe I have met you since our county convention last April. What was your crop of honey like?"

"Very light, I am sorry to say; and and to make matters worse, a great many of my young queens were lost while taking their mating flight."

"No doubt you ascribe these losses to the presence of king-birds?"

"No, I do not; and, personally, I don't believe that the king-bird is responsible for half the damage he gets credit for."

"Pray, how do you account for the loss of your queens, then?"

"Well, as you probably know, for a mile and a half on all sides of my apiary the country is mostly pasture land."

"Yes, but what has that to do with the loss of queens?"

"Just wait a moment and I will tell you. Walking over a closely cropped pasture field, one afternoon, I was at-

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tracted by a large number of drones flying near the ground, and, on looking down, there on the ground was one of my young queens hopping around with an injured wing. The drones would swoop down towards the queen, flying very rapidly back and forth. As I found a couple more queens in like condition, later on in the season, I have come to the conclusion that quite a number of queens have their wings injured by drones flying rapidly against them while in the air; the queens then drop and perish in the grass."

"Well, Mr. Smith, I must say that your ideas on this question are new to me, and, as far as I know, to the fraternity in general. But, say, speaking of queens, how did those turn out that you got from Indiana?"

"Not very well, and, to tell the truth, I don't care to say much about it; but, as you have asked me, I will tell you the facts of the case."

"If I remember correctly, you had some virgins as well as untested queens sent you?"

"Yes, I ordered 8 virgins and 4 untested; when they came 2 of the former were dead; I returned them, and the dealer seemed to think that 1 live queen was as good as 2 dead ones, so he sent me 1 to replace the 2."

"Not a very encouraging beginning."

"No, and that was not all. Of the virgins left, 4 after 14 days began to lay and did all right, but the others were lost in their mating flight. But where the joke came in, the 4 untested were safely introduced, but not one offered to lay; in fact, *they* were vigorous, too; and, to cap the climax, when they went out to mate, not a blessed one returned to the hives again."

"Your experience, I must say, Mr. Smith, was far from satisfactory. I suppose you think those queens that never returned were injured by the drones, and lost in the grass, as you have before intimated?"

"Either that, or else by way of protest, they headed straight for Indiana. Don't you think, Mr. Jones, that some of these queen-breeders think we ordinary honey-men are pretty green, and often palm off virgins as untested queens?"

"No doubt there are dishonest and careless queen-breeders, just as you find this same class of men in other lines of business; and I remember getting a number of queens from Texas a few years ago, with quite a large percentage of virgins. I wrote to a prominent Ontario bee-keeper, and he said he had been having the same trouble, and attributed it to a very busy season, and to the fact of the queen-breeder having unskilled helpers in his queen-rearing work. Possibly, Mr. Smith, these same causes would explain your difficulties."

"I don't know the cause, but I do know that I got virgins instead of untested queens, and that the dealer would not make the matter right."

"Well, good-bye, Mr. Smith; the first time you are in Pumpkinville drop in and have a look at my bee-cellar. The temperature ranges from 40 to 43 degrees; this is a little low, but the bees seem to be wintering well; yet I would like to have an old-experienced bee-keeper, like yourself, call and give your opinion."

"Good-bye, Mr. Jones. I certainly will be glad to call on you if I am down your way; but, in the meantime, if your cellar is dry, and the bees are quiet, don't worry about them, even if the temperature is a trifle lower than is generally recommended."

By W. A. Pryal, Alden Station, Oakland, Calif.

The Poetry of Life is in the Bee

What a world of melody to the bee-keeper's ear is the hum of the bee during the first warm days of early spring. It is the very poetry of life; there is nothing else like it, for nothing else can compare with it. It is a theme for the poet, so not being a writer of that order, I shall leave the beautiful subject to my poetical friends.

Early Rain Makes the Honey—Sometimes

Copious have been the rains throughout the length and breadth of California this winter; in fact, in some places far above the average has already fallen. With the rains to come there is no doubt but there will be a splendid growth of honey-plants. The honey harvest should, therefore, be good. But the result can not be foretold in advance, as cool weather may prevail when the principal honey-secreting flowers are in bloom. Even if your hens are good don't count your chicks before they are hatched, is a good rendering of the old saw; and so, if the rain comes and the sun shines at times, don't load your wagon with next season's honey.

Honey Crop of 1906

The man who did the figuring for the New Year's edition of the San Francisco Chronicle, places the honey crop for last year at 7,500,000 pounds. Figures are said not to lie, but in the Chronicle's showing they must somewhere. The writer and computer states that last year was a poor one, yet it was but 1,250,000 pounds short of the previous year's output. In 10 years it was equalled only four times. The greatest crop in that time was secured in 1905; 1903 was nearly as good, but 1904 has a record of only a few tons over a 500-ton crop—the worst year in the decade.

Early Spring Flowers

The sentimental poet has sung of the "Flowers that Bloom in the Spring," but I have not yet found where the metrical man has essayed to sing of the "Flowers that Bloom in the Winter." Possibly the flower-poet has not been living in California. We have some real pretty wild flowers that bloom in the dead of winter; I was admiring some blossoms of the wild currant that were in bloom in our back yard on New Year's day. The bush is one that volunteered from seed that was brought up evidently in some sand that was carted from the creek. The flowers are very pretty in their pink loveliness. They appear at a time when the plant is practically nude of foliage, so the flowers are all the more showy. They have a very pleasant, "pungy" odor, and when the days are warm the bees hold high carnival amid the bloom. The period of inflorescence of this plant extends over many weeks—away into February. It is a plant that I can recommend for a place in every garden for ornament. Its fruit is not considered edible, though it may be eaten.

It is easy to gather bouquets of garden flowers here in the latter part of February, and from thence on; so, also, may one pluck quite a variety of wild flowers commencing that early. One day in the first week in February, some years back, I went out into the hills and in a few minutes had an armful of Flora's early treasures. I gathered a few of each into an old straw hat, and exposed a photographic plate on them. The result was not fully satisfactory. I submit a print from the negative, as it may give an idea of what some of our winter flowers are like. I wish the photograph were a better one. [See front page.—Editor.]

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

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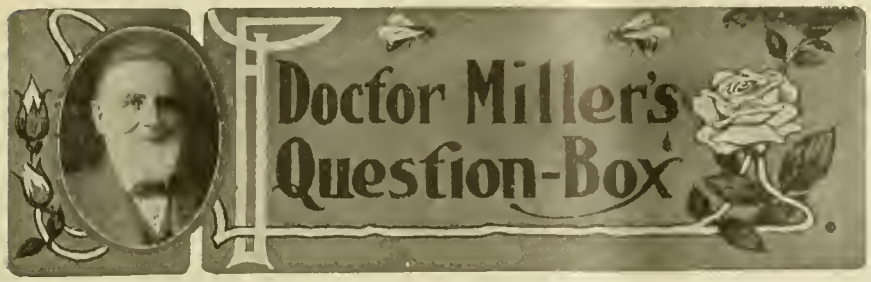

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Beginning Bee-Keeping

I would like to know the best possible way to commence bee-keeping the coming season.
MICHIGAN.

ANSWER.—Take my advice and don't wait for the coming season, but begin now, getting a good book on bee-keeping and studying it thoroughly. That's the way to begin, and by the time you have done that you will know pretty well the next step; but if the way is not entirely clear then, I'll be glad to answer to the best of my ability any questions as to your further course.

Italianizing and Transferring Bees

1. I have 3 colonies of bees to which I wish to give Italian queens. When shall I do this, in fruit-bloom, or earlier, or later? And how?

2. I have one colony in a box-hive, one with movable frame, and one of odd size. I wish to transfer them to my regular Danzenbaker hives. When is the best time to do this? And can I then re-queen? That is, at the time of transfer? And how?
IOWA PRAIRIE.

ANSWERS—1. It doesn't matter so very much when, but a new queen is likely to be received more kindly when honey is coming in more freely; so if you do not introduce in the flush of fruit-bloom wait until the next flow, which in your locality is probably white clover, early in June.

You will receive instructions on the shipping-cage which brings you a queen by mail, generally, and you will do well to follow such instructions. They will tell you to remove the old queen and put the new queen caged into the hive, leaving the rest to the bees. As a possible improvement, it may be well to put the caged queen into the hive without disturbing the old one, but having the cage so arranged that the bees can not get at the candy to liberate the queen. Two days later remove the old queen and give the bees a chance at the candy to free the caged queen.

2. Nowadays the tendency is toward waiting to transfer until 21 days after the colony has swarmed. In your case, however, you are merely to transfer from a frame of one size to another, and I think I should not wait for swarming, but transfer during fruit-bloom. You can also change the queen at that time, in the way mentioned in the preceding answer, or if more convenient, you can wait till white clover is in bloom.

What Are Weak Colonies in Spring?

On page 152, Mr. Scholl says that at the main examination of colonies as soon as warm weather in early spring allows it, "If the cluster does not spread over the space of at least 4 or 5 combs, it should be marked as 'weak,' and should be united with another colony." If I should follow that teaching it would leave very few colonies not united. Do you think I would gain by such uniting?
SUBSCRIBER.

ANSWER.—If Mr. Scholl is speaking of Langstroth size of frames, it must be that there is something very different in Texas from northern Illinois. I do not note upon first examination just how many combs the cluster spreads over, but I do note generally the number of combs in which I find any brood, and practically that means the number of combs the cluster spreads over. It may be of interest to give from the book of the very prosperous year of 1903 the condition of 6 different colonies just as found at one opening of the book, at the time of their first examination, April 20. The number of combs having brood in them, and the number of sections obtained from each colony were as follows: 4 combs, 232 sections; 5, 186; 2, 219; 4, 172; 5, 240; 3. 184. It will be noticed that according to the rule of uniting all under 4 combs there would have been united 2 which gave respectively 219 and 184 sections, or a total of 403 sections. If I had united those 2 colonies I feel pretty sure it would have been at a loss, for I have no idea the united colony would have given 403 sections. Looking along I find others with brood in 3 combs each that gave, respectively, 285 sections, 238, 164, 170, 149, 224, 142. But I need go no farther, for I think that is enough to show that the rule would not be a profitable one to follow in this locality.

Combs of Granulated Honey—Feeding Comb Honey—Strong-Scented Honey—Dummies

1. What is best to do with frames filled with granulated honey? If placed in the hive, will they liquefy so that the bees can use them, or should I place them outside and let the whole force get at them?

2. Is it necessary to uncap combs of honey given in spring? I have scored them with a knife and sometimes the honey would run down and out, causing robbing.

3. Last fall when I opened some hives they had a strong scent. I was afraid there was some disease in them. I could see nothing wrong with the brood, and the combs were well filled with honey and all capped over. The honey is amber, strong tasting, and scarcely fit to use on the table. Will such honey stored by the bees, or fed to them in spring, be fit feed for them? Can it be some poisonous plant food?

4. You are often called upon to explain what dummies are, how they are made, and how used in the hives. In confining a small colony to one end of the hive, do you fill the empty space with anything?
NORTH DAKOTA.

ANSWERS.—1 and 2. You can trust the bees to uncap the cells, and as fast as needed. The heat of the hive is not sufficient to liquefy granulated honey, but the bees will make use of a good part of it for all that. You may get them to use all of it by spraying or sprinkling the combs with water, repeating the operation as often as they are cleaned dry by the bees.

3. It is not likely the honey is at all poisonous, only unpleasant tasted, and will be all right for the bees' own use. The most profitable thing to do with some honey that is poor for table use is to get it turned into young bees.

4. A weak colony, say one that needs only 4 frames, may have a dummy at one side of the frames with the remaining space in the hive left entirely vacant; only the dummy must be moved and a frame or frames added as needed. Generally, however, when one has a weak colony of that kind which is expected to build up, one has enough empty combs to fill up the hive, and in that case I wouldn't use a dummy at all. You may ask whether the bees would not be warmer to have the combs that are occupied shut off from the empty combs by a dummy. One would naturally think so, yet experiments carefully made, if I remember rightly, by Prof. Gaston Bonnier, showed that the empty combs were just as good as a board partition.

Feeding in Winter—Making Increase—Moth-Worms in Brood-Combs

1. About a week ago we had a few nice, warm days with the temperature at 40 degrees above zero in the shade. The bees being active and taking a good flight, I thought I would look into colony No. 4, for I was pretty sure they were short in stores. Did I do wrong in feeding them at that time?

2. Being anxious to increase as fast as possible, I would like to have your opinion about it. I read one article by W. Z. Hutchinson, saying that he made his increase by taking 2 or 3 frames of brood from strong colonies and giving them a laying queen; but not being able to buy my queens, would it do to take a queen from one colony and let the bees rear a new queen? Please give me some of your best plans.

3. Last year I lost considerable by having the moth-worms get into some brood-combs which I had stored away. How can I prevent this?
MICHIGAN.

ANSWERS.—1. It is not a good thing to disturb bees in February, but it is a much worse thing to let them starve. So if you were not pretty certain that their stores would last till warmer weather, you were very wise to feed.

2. It is not easy to say what may be the best plan for you. What is best for one is not always best for another. But taking the plan you mention, you can do very well with a little variation. Decide which colony you think has the queen of best blood, and see that it is strong, if necessary giving it frames of hatching brood from other colonies to strengthen it. You may even fill 2 stories with brood. Call this hive A. When the time comes for bees to begin making preparations for swarming, take the queen with 2 or 3 frames of brood and adhering bees, and put them in hive B, on a stand a rod or more distant. Better fasten the entrance for about 2 days, lest too many of the bees return to the old hive. About 8 or 10 days after taking the queen away from A—don't delay longer than 10 days—take out one of the frames with the queen from B, put it in an empty hive, C, and fill out C with empty combs or frames filled with foundation or starters. Take hive A from its stand, and set hive C in its place. You will now make as many nuclei as you can from the brood and bees in A, taking 2 frames of brood and bees for each nucleus, putting each on a new stand. It may happen that without any attention on your part there will be one or more good queen-cells on one of the combs in each nucleus. It may be, however, that most of the queen-cells are on one or two combs, and you must cut out at least one good cell for each nucleus. You can fasten it on the comb by pushing over it a hive-staple. See that it is centrally located where the bees will be sure to keep it warm. A cell must also be given to B, and it will be well that this be given in a cage so that the bees can not get at it for a day or two lest they destroy it before they discover their queenlessness. The bees of the nuclei being queenless, will remain pretty well where put, but you might fasten them in for a day or two. You will find much about increase in the last volume of the American Bee Journal,

and the book "Forty Years Among the Bees" is very full in this respect.

3. In a cool cellar the worms will not trouble them much till quite warm weather, perhaps not till June. Then if you can put them in the care of the bees that will be best. A story or two of combs may be placed under any strong colony, and the bees being obliged to pass through them in going in and out the hive, will keep them clear of worms. You may also destroy the worms by submitting them to the fumes of sulphur or bisulphide of carbon. If large worms are found in any of the combs, squirt a little gasoline on them out of an oil-can.

Reports and Experiences

Working on the Maples

Bees are working on maple, and peach-trees will be in bloom in a week, or less time if the weather continues as it is at present.

R. E. CAMPBELL.

Springdale, Ark., March 4.

The Honey-Flow is On

Our white honey-flow from wahea is near at hand—in fact, already on at some of my outapiaries. It promises to be good. The weather is warm and dry. GRANT ANDERSON.

Sabinal, Tex., March 5.

Expects Loss from Honey-Dew

I fear that "The Hum of the Bees in the Apple-Tree Bloom" will not be a very noisy hum, on account of the honey-dew. There was one of the best (or, should I say, worst?) flows last summer I ever saw. My 75 colonies stored about ¾ of a ton, ½ being in the brood-chambers and 500 pounds in the sections. This was of good body and fine flavor, many preferring it to the best clover honey; but, alas, for the bees! They can not subsist on this sort of honey and stand the long winter confinement in this cold north country, where the mercury has dropped the present winter to 54 degrees below zero. Bees are in the cellars, of course, and have been for over 3 months, and will have to stay 6 weeks longer, at least—those that live. I don't expect to take out over 15 percent in good condition. O. B. GRIFFIN.

Aristook Co., Maine, March 2.

"Wild" Honey—Hard Winter for Bees

I have read the letter by Harry Lathrop, on page 105. I would call attention to what seems to me a mistaken idea in regard to the flavor of wild honey (so-called). If any one can tell where the difference in flavor comes in, I should be pleased to have him do so. Having kept bees over 50 years, and hunted wild bees (so-called) nearly as long, I never yet could detect any difference in the flavor of honey from hive or tree; and why should there be any? The bees in the tree that we call "wild," perhaps went from our own apiary, and where can they gather any different honey from those in our own hives? Are not all the flowers visited by the bees from hive or tree alike? Of course, honey from a tree is not in as nice shape as what we get from sections, yet some of the white comb can not be excelled by that in the hive, either in looks or flavor.

Our bees here in southern New Hampshire are having a hard winter, and I fear will not go through till spring in good condition, as they have not had a cleansing flight since some time in November. And their stores were not the best, they having gathered quite a lot of honey-dew, and my bees have not, on on average, wintered well on that kind of sweet. (I will not call it honey.) Our bees are always wintered on the summer stands, in double hives, with a good packing over the honey-board. Last winter every colony went through the winter in fine shape, and up to the present time (Feb. 9) all are alive, but I judge are in bad shape, as they try to fly when it is too cold for them to do so safely. One colony, yesterday, with the thermometer at 25 degrees in the shade, and hives standing in the sun, were flying, but, of course, many of them never returned to the hive. A little shade made by standing a board in front of the hives soon quieted them. When it is calm, and the sun shining brightly, and it is 42 to 44 degrees in the shade, bees will fly and return to the hive all right.

New Ipswich, N. H. GEO. S. WHEELER.

A Few Corrections

On page 137, where it says, "by the looks of the queen's drones," I should have said "workers." On page 138 it says, "in one week all the bees were dead;" it should be "queens," not "workers." The half-blood queen's abdomen was filled with water. Those 2 queens I received late in the fall of 1905, so they could not be tested as to their purity until the spring of 1906. SUBSCRIBER.

New York.

Some of the Ups and Downs of a Bee-Keeper

The spring of 1885 a widow living here gave me her apiary of 3 colonies of black bees in box-hives, which I moved to my home about the last week in March. Then I went to a friend who kept bees in frame-hives and borrowed a hive and a frame so I could make some like them. Those hives were 14 inches by 16 and 18 inches, outside measure, and about 12 inches deep. The bees in the new hives stored very little honey, but would swarm and swarm and swarm. The sections were put on the frames crosswise, and the open sides of the sections fenced in with thin boards; the cover of the hive being made deep enough to accommodate the sections.

Twenty years ago either I or the bees, or both of us, had an experience that has not been repeated since. A swarm came out and was hived in one of those 14x18-inch hives. Before the first swarm was in the hive another swarm came out and went with the first, and then another, and still another. There were 4 swarms in and on that hive; the hive was completely covered with bees, so it was left where the first swarm was hived all night. The next morning I was out early to see what arrangements they had made, and found them in the same shape as they were the night before. About 9 o'clock a swarm peeled off and went to the woods; in less than 20 minutes another came off and went in an opposite direction; a few minutes later the third swarm left and went south, leaving a nice swarm in the hive.

I got a catalog from a bee-supply factory in Wisconsin, and ordered the Improved Simplicity 10-frame hives. The supers were arranged so that the section slats would rest on the sections in the super below. No matter how many supers were on the hive, there was only one bee-space, and that was between the first super and the top-bars of the brood-frames. The bees would glue the supers tight together, so if the top super were removed the sections in the super next below would all follow. If the inventor had lived in this corner of the bee-pasture, and put his hive into practical use, he would never have made the second hive. Some of those hives are in use yet, but they have been remodeled so that there is a bee-space between each super. The next hive was the "Wisconsin," which is all right except the Hoffman self-spacing frames, which are a nuisance in this locality, and they are not spaced far enough apart. Next the "St. Joe" hive with metal spacers top and bottom. In my judgment the "St. Joe" hive is the best hive of the three.

The honey season of 1906 was excellent in this locality. The bees have the range of the Illinois River bottoms, where wild cucumbers, wild asters, and Spanish-needles were abundant, and some buck-brush. I had 22 colonies last spring to start with, and increased to 32. The forepart of the season but little surplus was stored—just enough to keep breeding going on nicely. The hives were running over with bees. On Aug. 9 a marked improvement in bee-circles was noted somewhat out of the usual order, as my bees had always taken a vacation in August, but this year business was the order of the day. My 22 colonies, spring count, filled 2500 sections—an average of over 113 per colony. One colony on 10 frames, in what is known as the "Shirck" hive, filled 168 4¼x4¼x1⅞ sections full from top to bottom without separators. One other colony in an 8-frame Langstroth hive filled 165 plain and bee-way sections, and 5 colonies in 10-frame Langstroth hives filled 140 plain and bee-way sections each. I have kept bees over 20 years, but never till last year did a colony in an 8-frame hive fill more than 72 sections. GEO. B. SLACK.

Peoria Co., Ill., Feb. 26.

Late Report—Tall Bee-Men, Etc.

It is rather late to make a report for 1906. Perhaps one reason for my tardiness is because I had nothing to boast of in the way of a honey-yield, the season here being a rather poor one. Forty pounds of salable section honey to the colony, spring count, is about the size of the crop, and an increase from 35 to 55 colonies, which seem to be wintering well in the cellar.

The Editor, on page 66, seems a little inclined to boast of the stature of Mr. Louis H. Scholl. I have a neighbor bee-keeper, Isaac Wayne, who goes him 2 better, as he is 6 feet and 4 inches in his stockings. When it comes to reaching up a tree for a swarm of bees, he gets above me by nearly a (Foote) foot.

Last fall, when taking off the last of my supers after the honey-flow had ceased, I made a little discovery of the "cuteness" of the bees that was new to me, but maybe not to the experts. Three years ago I made a cone about 9 inches long out of wire-screen, and attached it to a bee-escape board so that bees inside could get out, while those outside could not get in. My practise was to place a regular bee-escape on an empty hive, on top of that place 4 or 5 supers, and on top of these put the board with the cone. It was a real pleasure to see the bees chase each other out, one at a time, and it would be only 2 or 3 hours before the supers would be clear of bees. But one fine day last fall I noticed quite a collection of bees on the outside of the cone near the top, so I thought best to look into the matter and find out, if possible, what they were up to. And this is what I saw:

A bee on the inside would come to the top, and to all appearances deliver her load of honey to an outsider between the wires, when the latter would fly away to the hive and the former would back down into the supers after another load of honey.

Another thing I saw: When 2 bees, one inside and one outside meet, that didn't belong to the same colony, they would immediately back away and hunt for their mates.

Of course, I can not say *positively* that the above conclusions are correct, but appearances go strangely to prove that they are. While the honey carried out of the supers in this manner was probably inconsiderable, it proved to me that while "man proposed" the bees were cute enough to plan ways and means to "dispose." A. F. FOOTE.

Mitchell Co., Iowa.

Bees and Grapes, Etc.

My 33 colonies so far are in fine condition. We have had a very mild winter here. It was so warm and sunshiny last week that the bees finished one sack of flour as artificial pollen. I mix ⅛ bran to keep the flour loose so that the bees can work it better. My bees are in Heddon and Langstroth hives.

For beginners with bees, I would say to go

American Bee Journal

slow in buying bees, queens and brood foundation. In regard to disease, I have some reason to believe that a good share of the dead brood and foul brood is caused by the chemicals that are used in clarifying the beeswax at the foundation factories. Buying queens is also a fine way of getting disease into your bee-yard. If there is another fellow in the whole world that has less use for yellow bees than myself, I would like very much to know it. If I have ever had any disease in my bee-yard, I do not know it. I am well pleased with brown bees. They swarm less, are good super-workers, and make plump, white combs, and stand the cold best.

I wish to offer a little criticism on what is found on page 108, where Mr. Doolittle says it is all a myth that bees in normal condition do not freeze to death. It is just the reverse, if you please. Those Northern losses are all caused by cold weather, and if those losers will try again with common bees they will succeed all right.

As to bees injuring grapes, they do not. Neither do the birds, but it is the change in the atmosphere that breaks the rind of apples and the skin of grapes; a sort of second-growth. Certain varieties are worse than others. Mr. A. I. Root, of Ohio, some 20 years ago, screened in a grape-vine and so reported; at least it was in Gleanings that I saw it.

As I have taken 3 swarms of bees out of the walls of dwelling-houses, I would like to know how those house-apiary men are making it go. My next experimenting will be with little houses, keeping the bees in them in winter and summer.

The good "old reliable" American Bee Journal comes to my office as regularly as clock-work. Surely, it is a fine Journal. Long may it live! KARL J. LOHMANN.
Clinton Co., Mo., Feb. 18.

[We are afraid Mr. Lohmann would find it rather difficult to prove that chemicals used in clarifying beeswax cause dead or diseased brood.—EDITOR]

Expects More Spring Dwindling

Bees had a fair flight here March 3d. I have not lost any colonies, though a few are more or less affected with dysentery. I look for more spring dwindling here than usual.
Norwich, Conn. ALLEN LATHAM.

A Correction.—In the item on page 165, in "Calcium Chloride in the Bee-Cellar," by Allen Latham, in speaking of the bees' need of fresh air, he should be made to say, "Their need of fresh air is *not* like our need of fresh air—that is, plenty of oxygen." Such statement harmonizes better with the rest of the item. Mr. Latham is experimenting this winter still further, and finds that bees need almost no fresh air, provided the moisture is taken care of.

CONVENTION NOTICES.

Texas.—The Northern Texas Bee-Keepers' Association will hold its annual meeting at Ladonia, Tex., on April 3 and 4, 1907. All bee-keepers are invited to attend. No hotel bills to pay. W. H. WHITE, Sec.
Blossom, Tex.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual convention at East Jordan, Mich., on April 10 and 11, 1907. Headquarters will be at the Russell House, where a $1.00 per day rate has been secured. IRA D. BARTLETT, Sec.
East Jordan, Mich.

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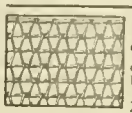

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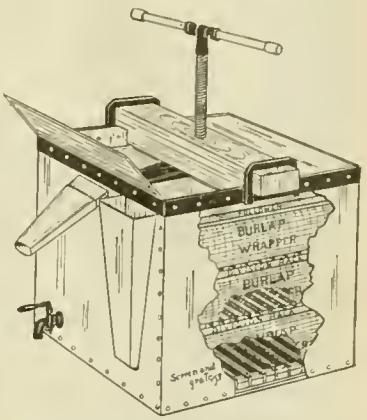

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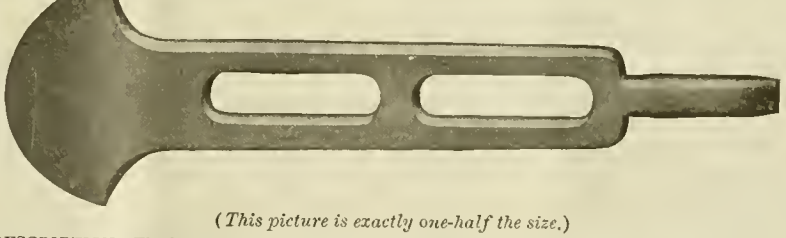

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What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

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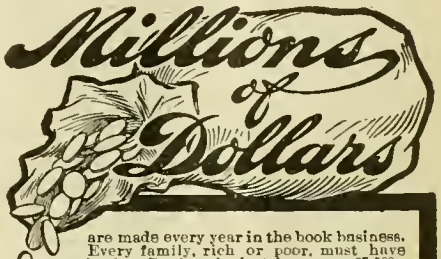


are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

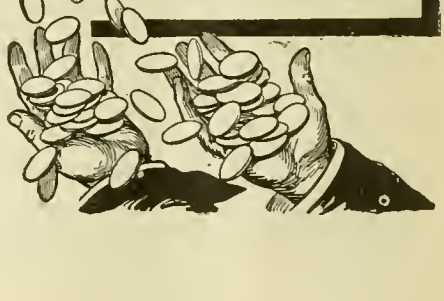
Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
Dept. G 28 Jackson Blvd., Chicago



American Bee Journal

A GREAT IMPROVEMENT

Will be found in

The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]

Headquarters for Bee-Supplies

ROOT'S GOODS

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8ac; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7½@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Feb. 9.—The demand for extracted amber honey has brightened in the past 3 weeks. Amber honey in barrels at 6½@7½c, according to the quality and the quantity purchased. Fancy white extracted honey selling at 8@9c in cans. Comb honey is a drag on the market, fancy selling at 14@16c. Beeswax, 32c. for choice grade. THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, March 6.—The market on comb honey has been quite brisk the past week. Entirely sold out of fancy white. No. 2 is selling for 12½@13c. White clover extracted in cans, 9c; amber in barrels, 6c. Beeswax, 30c, delivered here. C. H. W. WEBER.

KANSAS CITY, Mar. 4—The demand for comb honey is only fair at present. The market is almost entirely bare of extracted honey. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted honey, white, per pound, 8@10c; amber, 8c. Beeswax, per pound, 25@27c. C. C. CLEMONS & Co.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

FACTORY PRICES

BEE-SUPPLIES in Cincinnati.

Let us give you quotations on Sections, Hives, Foundation, etc. We will save you money.

Beeswax wanted at 31c per pound cash; 33c in trade, delivered here. (Send for our free catalog.)

THE FRED W. MUTH CO.
7Atf 51 Walnut St., CINCINNATI, OHIO.

Standard-Bred Queens

Reared from Imported and Home-Bred Caucasian, Carniolan, Hall's Superior Goldens, and Leather-Colored Italian Breeders. Their bees are honey-getters. Untested Queens, $1; 6, $5; 12, $9. Select untested, $1.25; 6, $6; 12, $10. Tested, $1.50; select, $2.50; best, $5. List free. T. S. HALL.
11D8t JASPER, Pickens Co., GA.

Moore's Long-Tongue and Golden —QUEENS—

Fine Select Untested Queens, $1; 6, $5; 12, $9. Tested, $1.50; 6, $8. Best Breeders, $3.50. Safe arrival guaranteed. W. H. RAILS, Orange, Cal.
9D18t Please mention the Bee Journal.

HONEY AND BEESWAX

When consigning, buying or selling, consult

R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

Catalog for either, with instructions to beginners—Free.

29Atf C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Mention Bee Journal when writing.

QUEENS By uniting swarms from 1000 colonies **NUCLEI**

I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1 75

4A13t R. M. SPENCER, Nordhoff, Calif.

Mention Bee Journal when writing.

"It is continuous advertising that impresses the public with the stability of a firm."

Our Discounts on

BEE-SUPPLIES

are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them?

Have you received our new 1907 Catalog? It is surely the easiest Catalog to order from that you ever saw. It is so easy that you cannot make a mistake in your orders—a child can order from it as well as an adult. Write for it to-day; it is free for the asking. It is something new and entirely different from any you have ever seen.

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken

265 & 267 Greenwich Street
NEW YORK, N. Y.

Mention Bee Journal when writing.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year MARCH 21, 1907 Number 12

AMERICAN BEE JOURNAL

Home and Apiary of Geo. H. Adkins, of Ticonderoga, N. Y.
(See page 226)

Apiary of Griggs Bros. & Nichols Co., of Toledo, Ohio.

THIRTY-TWO PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
13 " 10	"	500 " ...10	"
26 " 20	"	1000 " ...20	"
52 " 30	"	2000 " ...30	"

These rates are subject to either time or space discounts, at choice, but not both.
Reading Notices, 25 cents, count line, subject to the above discounts.
Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

As most of our readers know, we have got-tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to otner makes?
Because the bees like t best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next aeason for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST * POLITICAL * QUESTION

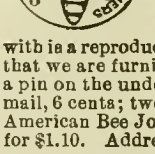
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks



This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Marshfield Goods

When you buy those goods you can be assured of **good, honest goods.** We make nothing but **PERFECT SUPPLIES.** Sections made of young basswood timber. **Hives** and **Shipping-Cases** are Beauties. If you have not received our Catalog of Supplies, please write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

Queens

The finest in the land from DANIEL WURTH & GRANT.

3-Banded, Red Clover, and 5-Banded Goldens.

The Goldens took First Premium at every Fair they were exhibited last year.

Prices:—Untested, $1.00 each; Tested, $1.50 each. Address,

DANIEL WURTH & GRANT
PITKIN, ARK.

☞ Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W. 6ESt

---

HARDY CHESTNUT TREE FREE

To introduce this tree and gain new friends we offer a 1 yr. tree free to property owners. Mailing expense 5 cts. A postal will bring it and our catalog with 64 colored plates. Write today.

The Gardner Nursery Co., Box 815, Osage, Ia.

Mention Bee Journal when writing.

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12 Pkts SEEDS THE BEST TO BE HAD 20c

96 PAGE CATALOG FREE TO ALL

Beet, Egyptian; **Cabbage**, Surehead; **Carrot**, Danvers; **Corn**, Early Evergreen; **Cucumber**, New Cumberland; **Lettuce**, Early Curled; **Musk Melon**, Paul Rose; **Water Melon**, Sweetheart; **Onion**, Prize Taker; **Radish**, New Conical; **Squash**, Marrow; **Tomato**, Matchless.

One packet each for 20 cts., coin or stamps. FREE with order: packet of **New Bavarian Oats.** Mention paper.

W. W. BARNARD CO., Dept. Q, Kinzie St., Chicago.

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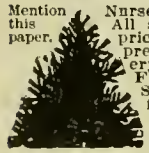
EVERGREENS



Mention this paper.

Nursery grown, hardy everywhere. All sizes for all purposes, lowest prices. 50 bargain lots, first class, prepaid $1 to $10 per 100. Also Nursery grown Forest Trees.

FREE:—One beautiful Black Hill Spruce to every customer. Send for free Cat. and Bargain Sheet.

D. Hill, Evergreen Specialist
Box 15. Dundee, Ill.

Mention Bee Journal when writing.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. **FREE**—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

Metal Mothers

Complete fireproof Hatching and Brooding Plant for $7.50. 2 quarts oil will hatch and brood 50 chicks Our nest system is the latest discovery. Full line Poultry Supplies. Lowest prices. FREE Catalog. Write today. CYCLE HATCHER CO., Box O, Keeseville, N. Y.

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Caucasian and Italian QUEENS

First Premium at Michigan State Fair, 1906. Circular tells the rest. A postal gets it.

A. D. D. WOOD, Lansing, Mich.
8Etf Please mention the Bee Journal.

Please mention Bee Journal when writing advertisers.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers. Prompt Service Low Freight Rates. ∴ ∴ ∴ Catalog Free

New Metal-Spaced Frames. Headquarters for the Danzenbaker Hive, the coming hive for comb-honey experts. If interested in this hive ask for pamphlet "FACTS ABOUT BEES." It is mailed free.

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

Mention Bee Journal when writing.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8 room house—on Wisconsin river. Address, **O. C. FITTS,**
10A13t KILBOURN, WIS.

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Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

G. P. Pilling & Son Co., Arch St., Philadelphia, Pa.

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The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

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Send for free Catalogue.

Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.

GEO. H. STAHL, Quincy, Ill.

Mention Bee Journal when writing.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.

M. H. HUNT & SON,
REDFORD, WAYNE CO., MICH.

Mention Bee Journal when writing.

Best No. 1 Sections per 1000, $4.00; No. 2, $3 40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.
6A14t Please mention the Bee Journal.

Alsike Clover Seed

Alsike is fine for bees, land, pasture or hay. It is hardy. Present price of seed, f.o.b., per bushel, $8.00; 6 bushels or more include sacks; less than 6 bushel orders, sacks 20 cts. extra. Write for price of Medium Red or Mammoth Clover Seed. Prices advancing. Catalog of Apiary Supplies FREE. Address,

F. A. SNELL, Milledgeville, Carroll Co., Ill.
10A4t Please mention the Bee Journal.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

——FOR HIS——

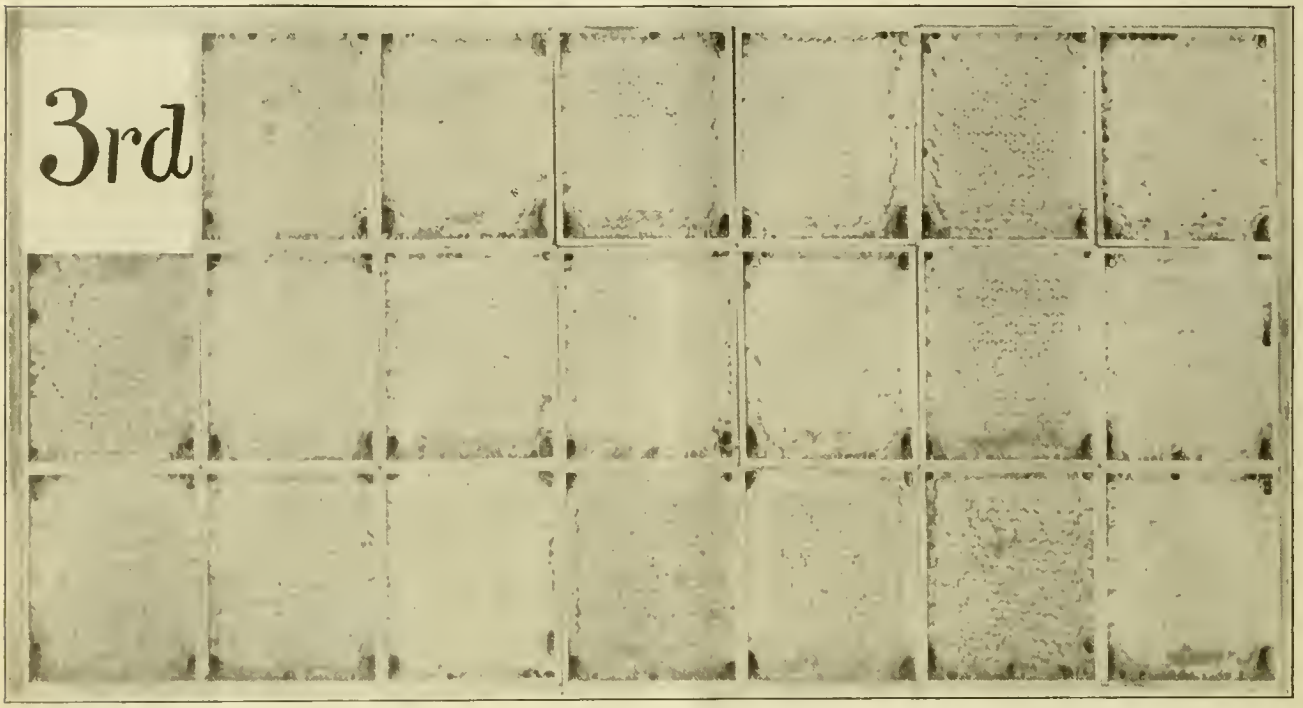
"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Mention Bee Journal when writing.

HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



More Honey

(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka.....J. M. Jenkins

Canada
Toronto.....E. Grainger & Co.

California
*Fresno..... Madary Planing Mill
*Los Angeles.....California National Honey-Producers' Association

Colorado
Denver.....The L. A. Watkins Mdse. Co.
Fruita.....Fruita Fruit and Produce Ass'n

District of Columbia
Washington.....The A. I. Root Co.

Georgia
Savannah.....Howkins & Rush
124 Liberty St.

Illinois
Chicago.....The A. I. Root Co.
144 East Erie Street.

Indiana
Indianapolis.....Walter S. Pouder
Evansville.....Vickery Bros.

Iowa
Des Moines.....Joseph Nysewander

Kansas
Augusta.....Carl F. Buck

Mississippi
Brazelia..... George A. Hummer

Massachusetts
Boston.....H. H. Jepson. 182 Friend Street
Lyonsville.....W. W. Cary & Son

Maine
Mechanic Falls.....The A. I. Root Co.

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Baltimore.....Rawlins Implement Co.

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GEORGE W. YORK, Editor | CHICAGO, ILL., MARCH 21, 1907 | Vol. XLVII—No. 12

Swarm Leaving Colony Hopelessly Queenless

The following question and answer are taken from the report of the Ontario convention in the Canadian Bee Journal:

Q.—Will a colony cast an afterswarm with the last queen leaving the parent colony hopelessly queenless?

Mr. Alpaugh—I would say, Yes, once in a while, but not very frequently. I have had them do such a thing several times in my time. I have returned them 4 or 5 times with the young queen back into a colony, and they came out, and they had no queen left, and yet the queen would go out with the swarm. I put her back, and she would do that time after time. I do not know the reason.

Plan of Giving Sections

D. M. M., in the British Bee Journal, gives this as the plan he followed in giving to the bees supers of sections, or "racks," as he calls them:

All racks were given above the others, rather before there was any clamant need, but these were placed below when taken possession of by the bees, and the nearly-full ones raised above to seal. At the same operation an empty rack was placed above all the others to act as a cooler.

That differs at least a little from the usual practise, and is worth considering.

Mr. Cowan on Names of Brood-Diseases

In the British Bee Journal, an editorial evidently written by Thos. Wm. Cowan—a man whose word counts for much in regard to brood-diseases—commenting upon the pamphlet, "The Brood-Diseases of Bees," by Dr. E. F. Phillips, takes issue with some of its conclusions in the following words:

That there are two forms of foul brood, a mild and a virulent one, has long been admitted, but we are certainly not yet prepared to allow that these differ from American foul brood upon the slender evidence adduced. The symptoms and characteristics of American foul brood, as described by Dr. Phillips, correspond with those of foul brood as we have it here, and such as we found in the United States when we first visited the apiaries at Medina, in 1887. We have since that time had the opportunity of seeing specimens of foul brood in the States and Canada, and in every case the symptoms were similar. Slight variations occur, but there was always the distinctive ropiness and unpleasant odor which can be compared to bad glue. We have also seen many specimens from different parts of Europe and Africa always with the same characteristics.

Our first acquaintance with black brood, or "New York bee-disease," as it was at that time called, was made some years ago in California. This was sent from New York State by Mr. West, a State bee-inspector, and on examining it we at once saw that it differed from what we called foul brood, for, although the outward appearance of the comb was similar, the distinctive ropiness and odor were absent. Notwithstanding that our experience with foul brood was pretty extensive, and dated back for more than 35 years, this was the first time we had come in contact with black brood. It was entirely unknown to us except from descriptions in the journals, and not a single sample had been sent to the British Bee Journal office for diagnosis. Last year, however, we began receiving from time to time specimens of dead brood differing in a marked degree from any we had previously seen in this country, and which corresponded in nearly every particular with the description given of black brood, and they at once reminded us of that we saw in California.

Black brood is of quite recent occurrence here, and we naturally hesitate to accept the statement defining it as "European foul brood," or the assertion of Dr. White, that it is caused by *Bacillus alvei*. To say the least, it is quite possible that Dr. White has made a mistake, just as others have done, and has cultivated one of the numerous saprophytic bacteria found in bees. It appears to us that the most important test has been omitted, and until that has been made successfully our judgment must be suspended. The test we allude to is to prove that the disease can be reproduced in healthy brood from a pure culture of Dr. White's *Bacillus larvæ*, showing the characteristic symptoms of foul brood—that is, the ropiness and odor. We know that this was done by Mr. Cheshire with *Bacillus alvei*, but we can not see that Dr. White has hitherto been able to reproduce the disease with his microbe. Until this has been done the investigations and the conclusions arrived at are of little value so far as solving the question is concerned.

In Case of Losing All of One's Bees

A reading of the following letter can not fail to arouse sympathy, while raising the question whether our correspondent is making the wisest stand:

GEORGE W. YORK & CO.—I am sorry to say that I will have to ask you to discontinue sending my copy of the American Bee Journal. I have been among bees here and in England on and off for the last 40 years, but never ran up against anything in the bee-line as I have the last 4 years. *Once in a while* you can not take the honey away fast enough here, but the last 2 years bees have not produced enough to live on.

Two years ago I knew of 250 colonies within a radius of 5 miles of my place, and to-day I can not count 25. I know of two friends who had 20 and 31 colonies; to-day they have none, like myself; so if that is not discouraging, what is?

I got in enough supplies after our big crop, 3 years ago, to carry me through another such a season, and to-day I have the same supplies on hand and not a single bee, but 50 empty hives. If I ever get hold of another colony I will surely subscribe again for the American Bee Journal, for no man with one colony should be without it.

JNO. T. PAINTER.

P. S.—I know you will say I get discouraged too easily. Well, since 1885 or 1886, when we all, around here (the late Mr. Clute included), got barrels of honey, I have known only one *good* year, and that was in 1904; and that is the average, I find, for around here for *good* crops. J. T. P.

There are bee-keepers who accept with complacency a disastrous year, if indeed they do not rejoice over it. And not without reason, for your experienced bee-keeper will tell you: "Even if I should lose every colony I have I don't know but I would gain by it in the long run. For it will drive out of the business some of those slouchy bee-owners who can hardly be called bee-keepers, and when they're out of the way I'll get enough more for my honey to make up for the loss."

All this aside, let us consider what is the

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wise thing to do when some circumstance, or combination of circumstances, happens to leave beeless a man who has previously had reasonable success at the business.

Let us put the case in a very simple, concrete form. Suppose a bee-keeper has a varied flora of such limited amount that the bees get enough from different sources to give them a good support, but from nothing do they store any surplus for their owner except from the single source—basswood. Now, suppose the demand for that sort of timber has made a clean sweep, and not a basswood tree is left. It is not even necessary to suppose that he has lost his bees, for what good are bees if they yield no surplus? What is the wise thing to be done?

If the bee-keeper be running a large farm successfully, with 10 or 20 colonies of bees as a very subordinate interest, the matter is very simple; the bees can go, and he can do very well without them, unless it be that he can replace the basswood by alfalfa, sweet clover, or some other crop that is profitable aside from its honey.

Suppose, however, that our bee-keeper is a very successful specialist, all other interests being subsidiary to bee-keeping. Loss of pasture simply means loss of location, and he will at once seek another field.

But these are unusual cases. Let us take a more common case, that of our correspondent, which is not unlike what many, many others have experienced. Seasons have been discouraging, and now that he finds himself without bees it is a good time to quit. Rather, he has quit, and the question is whether he shall stay quit. As factors in the problem we have a stock of hives, probably supplied with combs, supplies enough for a good crop, and the experience gained from keeping bees 20 years or more. The problem is to decide whether these are all to be thrown away, or to be continued in use by the investment of enough money to purchase one or more colonies for a fresh start.

The decision depends upon what may be considered the reasonable expectation for the next year and succeeding years. If there are to be no more good years, better stay quit. The fact that 2 or 3 years ago there was a good year shows that the sources are not cut off, but that the freaky thing we call "weather," or some other thing that we do not understand, has caused a dearth in spite of the possible presence of bloom in abundance during many of the past 20 years. No one knew in advance that 1904 would be a good year. Why is not 1907 just as likely to be good as bad? It is a rather remarkable thing that so many years in succession should be bad. It would be still more remarkable if the next 20 years should be similar, and so why may not the next 20 be just as good as the past 20 were bad? Then, too, it must be remembered that within the past 2 years nine-tenths of the bees have been wiped out; practically giving 10 times the pasture there was 2 years ago. Given the expectations that may reasonably be founded on such data, is it not the wise thing to make a fresh start, even if it be by sending hundreds of miles for a nucleus?

Now for the closely related question: "Shall our correspondent continue taking a bee-paper?" With no bees there is no need of one, although there may be a few with such interest as to continue reading one although never expecting to keep bees again. Our correspondent says:

"If I ever get hold of another colony I will surely subscribe again for the American Bee Journal, for no man with one colony should be without it."

You may put it down as a pretty sure thing that the man that talks in that kind of way is not going to be satisfied till he "gets hold of another colony." Self-interest at this end of the line would naturally incline to the opinion that in the interim he should continue to take a bee-paper. But is that not really to his own interest? A dollar spent in keeping himself informed as to all the forward movements may keep him in such trim that when he does take hold again he will get back his dollar many times over in increased results. Such being the case, unless he has decided in the most positive manner that he will never keep bees more, is he wise to allow his favorite paper to lapse for a single week?

Mr. Robert B. Ross, Jr, of Montreal, Canada, was a caller at this office recently when on his way home from a business trip to British Columbia. Mr. Ross keeps a dozen colonies of bees, more for recreation and study than for the financial profit derived from them. He is a very pleasant gentleman to meet, and is intensely devoted to the study of the bee.

The National Association, on March 11, had 2271 members. So it is still growing. The 2500 mark should be reached very soon.

General Manager France has been busy lately helping the bee-keepers of several States to get laws on bee-diseases. This is a good work, and perhaps no other organization can help as much along that line as can the National. We hope that before many more years pass, every State will have on its statute books such laws as may be necessary to stamp out at least the principal bee-diseases.

The Washington State Convention of bee-keepers was held at North Yakima, Feb. 4, 1907. The following officers were elected: President, Isaac Hays; Vice-President, Hans Mumm; Secretary, Virgil Sires, of North Yakima; and Treasurer, August W. Sipp. Vice-presidents for each county of the State of Washington will be voted for at the next meeting.

We are informed that there are two Bills now before the Washington State Legislature, one for the appointment of a State Inspector of Apiaries, and another to amend the foul brood law which was passed 2 years ago.

The Griggs Bros. & Nichols Co.'s Apiary appears in the picture on the first page. They are successors to Griggs Bros. The Company was incorporated in October, 1906, with a capital stock of $15,000. The incorporators were S. J. Griggs, D. D. Griggs, J. R. Griggs, W. R. Nichols, and F. W. Neithart. It seems the business of Griggs Bros. had increased to such an extent the last few years that the Company was incoporated for the purpose of handling the business in a satisfactory manner. The officers of the Company elected for the ensuing year were: S. J. Griggs, President, Treasurer, and Manager; D. D. Griggs, Vice-President; and W. R. Nichols, Secretary. Nearly all of the stock was promptly subscribed, being taken by some of Toledo's most influential business men.

Griggs Bros. were among our advertisers last year, and we hope that they will soon be again represented in our columns through the new concern of Griggs Bros. & Nichols Co., which, we take it, is "out to win."

Carrying Bees Under Difficulties.—The following has been sent us by Mr. Irving Long, of Missouri, which we reproduce for our newer readers, as we believe we published the same amusing story several years ago:

A German bee-keeper undertook to carry some of his choicest bees to a bee-show. He took a train in Hanover with his bees in a basket at his feet. The bees escaped from the basket and crawled up his trousers legs. His actions soon aroused suspicions in the hearts of two women who occupied the same compartment with him. They pulled the bell-cord and stopped the train. When the bee-fancier explained the situation he was placed in an empty compartment to have it out with the bees all by himself. Here he removed his trousers and began shaking them out of the window to free them of the swarm. Unfortunately they caught a telegraph pole and were swept away, bees, money and all. At the next station the irate station-master brought forth the reluctant bee-fancier in a rug and he pawned his watch to acquire decent raiment to walk back along the line in search of his bees and his trousers.

The Apiary of Geo. H. Adkins, and also his home, are shown on the first page. He sent us the following description under date of Feb. 25:

EDITOR YORK:—The photograph shows my home and part of my apiary, located within 2 miles of where Ethan Allen demanded the surrender of Fort Ticonderoga.

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As I am writing, our part of the country is covered with snow, and the weather at zero.

I have kept bees for 16 years, and have been a subscriber to the American Bee Journal for that length of time. I would not be without it if I did not have over 5 colonies of bees.

In the spring of 1906 I had 30 colonies, which were increased to 50, and I got 1700 pounds of honey, which brought me $225.

After returning from the National convention at San Antonio, Tex., last November, I bought 24 colonies of bees, which makes my number 74.

We are having a very cold, hard winter, and the bees have had only one flight since November, and that was on Feb. 15. I am expecting a heavy loss of bees, but I hope I will be disappointed in that regard.

The building at the right in the picture is my honey-house and work-shop, which was not completed at the time the picture was taken.

My trip to the San Antonio convention, and the meeting of my brother bee-keepers, will long be remembered; and also our stay at the Grand Central Hotel. But I feel like saying, "Home, Sweet Home;" no place like home and contentment. I hope to meet my brother bee-keepers some time in the future, in convention, that will be as friendly and as hospitable as were our Southern bee-brethren at San Antonio. GEO. H. ADKINS.

Advertising in the Bee Journal.—We have received the following from Walter S. Pouder, of Indianapolis, Ind., which should be of interest to advertisers and those who ought to advertise:

FRIEND YORK:—Six weeks ago I believed that I was overstocked on extracted honey. I placed a honey advertisement in the American Bee Journal, and for the past 10 days I have been refusing orders and refunding money. Surely, the readers of the American Bee Journal have confidence in its advertisers. I fear I have not enough honey left to supply my local demand till new crop arrives, and I can not replace my stock.

Truly yours, WALTER S. POUDER.

It pays not only to advertise honey in the American Bee Journal, but also bees, queens, bee-supplies, etc.—In fact, anything that bee-keepers and people in general need. You can't expect many people to patronize you unless you first let them know what you have for sale. Of course, we do not guarantee that any one can make a fortune by advertising in the American Bee Journal or in any other paper, but such advertising should help greatly, provided you have something to offer that is wanted, and also that the price is right.

"Langstroth on the Honey-Bee"—the well-known bee-book revised by the Dadants—recently passed into another edition. There have been some 75 pages added to it, and the whole work brought down to date in every respect. It is certainly a fine book, and should be read by every bee-keeper. It is really a classic. To become acquainted with the great Langstroth through the reading of his book is no small thing. Other bee-books are good, but there is only one "Langstroth on the Honey-Bee." The latest revised edition will be sold at the same price as the one preceding, which is $1.20, postpaid. We still have a few copies of the old edition on hand, which we will mail at 90 cents each, if preferred, so long as they last. We club the new edition of this book with the American Bee Journal for one year—both for $2.00. So long as we have any copies left of the old edition, we will send it with the American Bee Journal one year—both for $1.80.

Conducted by J. L. BYER, Markham, Ont.

Successful Wintering of Bees

"The bee-keeper who has not solved the wintering problem to the extent that he can winter his bees as well as he can his cows, has much yet to learn."—ALLEN LATHAM.

"For it must be said that we can not as yet bring our bees through a winter with that degree of certainty and uniformity that is possible with sheep, horses, cattle, and domestic fowls."—F. GREINER.

The two foregoing quotations are taken from the February issue of the American Bee-Keeper. Naturally, a lot of us will be curious to know who is right, and I expect, as a matter of experience, the majority will be inclined to agree with Mr. Greiner. Yet this does not prove that Mr. Latham is *wrong*, for I believe that the most of us will consent to eat humble pie to the extent that we will confess that we have "much yet to learn," whether it be about wintering or any other branch of apiculture.

But the worst of the matter is, that I fear we do not live up to the knowledge we *have* as regards wintering; in fact, there is no other part of the business that we are inclined to take so much risks in. Nearly all our text-books teach that for outdoor wintering in a cold climate, the bees should be on no more combs than the cluster can cover. No better advice could be given, yet how many put it into practise? The reason is, that in about 3 years out of 4 the bees winter fairly well without going to the trouble of contracting the hive, and that fourth year is apt, very often, to knock things out in bad shape. As we have no means of knowing when this *fourth* year will come, the only sensible conclusion is to prepare the bees every year as though we were sure of a very severe winter. Even if the hard winter doesn't come, I feel pretty sure that the extra work will be well paid for, anyway.

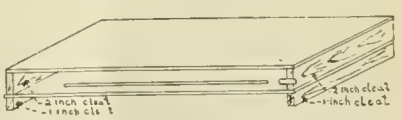
Then as to the matter of stores: Some seasons a lot of inferior honey is stored in the brood-nest; in fact, enough for wintering without going to the expense (?) of feeding. We remember that one year, when wintering on just such stores, over half of the colonies perished; but we also remember that one other *mild* winter the bees wintered fairly well on the same kind of food. As the season had been none too good, and, as a consequence, money none too plenty, we decided to risk the bees wintering on this inferior honey and run chances of another mild winter. No doubt many can speak of experiences under like conditions, when the *mild* winter failed to materialize, and, instead, we had a very severe season.

Personally, I have never had a severe loss in wintering, yet what losses I have had might have been avoided; and I unhesitatingly say that *if* I take the necessary precautions, and do the required amount of work, that one year with another, I can winter my bees just as safely as I can the cattle and other domestic stock. There is no boast about this whatever; on the contrary, as before intimated, we feel that any bee-keeper of ordinary intelligence can do the same, provided he lives up to the knowledge he has, and, in common with your humble servant, cease taking *risks*, whether it be as to quality of stores or any other factor which we know to be a necessary adjunct towards insuring good wintering of bees.

Making a Cover-Feeder

Since the description of my cover-feeder appeared, it has occurred to me that a great many bee-keepers who make their own supplies will decide that it is too difficult an arrangement to make by hand. The drawing showed the ends to be in one piece with grooves to receive the 2 floors of the cover. As I have a circular saw and power, I make the most of my covers in this way, but I have made some by hand which are equally as good, and which any one can make who can handle a saw and hammer.

The 2 floors are about 1 inch wider and 2½ inches longer than the hive-body. On the under side of the lower floor, at each end, is nailed a cleat 1-inch square and as long as the floor is wide. These cleats are to keep the cover securely on the hive. On the upper side of the lower floor, at each end is nailed a cleat 1 inch thick and 2



inches wide, and the same length as the lower cleat. On top of these wide cleats is nailed the upper floor, and the whole is covered with a heavy grade of felt roofing, and painted with two coats of *thick* white lead. This roofing is cut long enough to project down over the ends, and is secured there by nails and large tin washers.

Of course, the openings in the sides

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of the cover are closed in the same way as described in the cover, on page 72. There is practically no difference in the 2 covers, except the one here described has its floors separated by two 2-inch cleats on edge, while the cover described on page 72, had its ends grooved to separate the floors.

This cover has proven itself so valuable to me that I do not want the difficulty of making the first-described cover to hinder any one from giving it a trial. H. A. SMITH.

Ontario, Canada.

A Fire—Canadian Bee Journal Sold

The following is taken from the February issue of the Canadian Bee Journal, which was delayed as explained :

In explanation of the lateness of this issue, our resders will regret to learn that a serious fire occurred in the bee-keepers' department of the Goold, Shapley & Muir Company on the morning of Feb. 11th, which, besides the loss effected, has upset their plans and purposes very considerably. Owing to the injury done to the wood-working part of their building and plant, delays would naturally occur, which might seriously inconvenience their customers and agencies who are depending upon them for the season's supplies, and as a number of large orders are already on hand requiring immediate attention, it was decided on the part of the Company to negotiate with some reliable Canadian firm, fully equipped with wood-working machinery, for the manufacture of these goods. In consequence of this, a sale has been consummated to the Ham & Nott Company of this city, who are extensive manufacturers in the wood lines, and who have large connections throughout the country; all the Goold, Shapley & Muir Company's interests in the bee-keepers' supply business, together with the Canadian Bee Journal. The new Company will issue their circular to bee-keepers, with catalog and price-list, within the next few days, and operations will be commenced at once.

We can heartily recommend our successors, Messrs. Ham & Nott Company, to the bee-keepers of Canada, as business men of fidelity and enterprise, and who will, no doubt, make a success of this business, as they have of other lines. We desire to thank our bee-keeping friends for their patronage and confidence during these many years that we have been doing business with them, and we wish them every prosperity as the outlook for the industry increases and brightens in the Dominion.

[While regretting the loss by fire that has come to the Goold, Shapley & Muir Company, which, seemingly, has necessitated the transfer of their bee-supply business and bee-paper to the Ham & Nott Company, we wish the latter firm every success in their new undertakings.—EDITOR.]

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

THE HERSHISER WAX-PRESS.

So 200 pounds of remainders from the solar wax-extractor yielded in Mr. Hershiser's hands 70¼ pounds of wax. I take it, 200 pounds of old combs of the black and heavy sort, in ordinary hands, and with wash-boiler treatment, would have yielded much less than 70 pounds, possibly less than half that quantity. Mr. H. seems to be the head of the procession in wax-matters. On the whole, I guess we must vote him a benefactor. Page 88-90.

RASPBERRY A HEAVY YIELDER.

The report of 21 pounds in one day from raspberry, as made by S. D. Chapman, is rather surprising—at least to me. I thought that nothing but basswood ran up to figures like that. Page 91.

NON-SWARMING HIVES.

We would put a low estimate on the man who could not get enthusiastic over his own baby. Let's try and remember that while taking stock of Mr. Aspinwall and his hive. Always more than twice the surplus, as tested with common hives having the same number of frames. Just think of getting non-swarming and such a bonus as that thrown in! He thinks the queen's free access to every part of the hive is needed for a non-swarmer. I guess, perhaps, he is right about that. (Yet Bingham, on page 96, thinks just the contrary.) So Mr. A. dispenses with queen-excluders; and in hives where the combs are well spread out with spacers the queen keeps down without them. But pollen in the sections bothered him; and he keeps that out by filling the sections with foundation of drone size. Page 92.

RESPIRATION OF PLANTS AND BEES.

I believe the fact that plants in the daytime take in carbon and pour out oxygen, while at night they do just the opposite thing, used to be considered a pretty high-class scientific puzzle. With Prof. Cook's lucid statements it scarcely even looks like a puzzle. Nutrition causes carbon to be taken in; and respiration causes carbon to be sent out. Nutrition can not go on except with sunlight. Respiration goes on all the time, but handles less carbon than nutrition does when that is in full blast.

The reason why bees and other insects do not have red oxide of iron in their blood is also lucid. In animals it is needed as a carrier of oxygen; while in insects the air itself is piped all over the body, and no carrier of oxygen is needed.

Sounds strange to hear that a bee's heart has no arteries or veins attached to it. Just one long valved tube to take the blood from the tail and carry it to the head—and let it percolate back again as best it may. Curious that so crude and unsatisfactory looking a circulatory system should be found in company with a respiratory system so complex and well-looking. Page 107.

SOME INEXCUSABLE ERRORS.

In my corner, on page 95, some bungles worry me: Not "brood-frames," but *broad*-frames hold my sections; and wood surface was not "punctured," but punctuated with dabs of propolis. The former error is so frequent a one that some brother has said we should always say "wide frames." A mirth-provoking error of of the same class occurs on page 108, where Mr. Gallup's bees were ventilated through a 2-inch "pole," in lieu of a 2-inch hole.

BEES THAT "KNOW BEANS."

That beans yield abundance of honey of excellent color and quality in California and rather seldom attract a single bee in the eastern half of the continent, is one of those problems not easy to solve. That the more cosmopolitan bees of the Pacific Coast "know beans" while ours do not—well, we do not take very kindly to that solution. Page 107.

A COLD EXPERIMENT.

To give 16-degree-below-zero weather free access into a hive at both top and bottom all night is a pretty savage sort of experiment. We are glad to learn, however, that the same colony stored honey all right the next summer. Nevertheless, young brother, don't you travel on that revelation very much. Just make your bees for winter as warm and snug as ever you can. Page 108.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

American Bee Journal

No. 1.—Feeding and Feeders —Spring Feeding

BY C. P. DADANT.

During the past season a great many bees have been short of stores, owing to the scanty honey crop. Many colonies were fed for winter, but many more will need feeding during the spring. It must be borne in mind that there is about as much honey consumed after the real cold weather has passed, as is consumed during the hardest of winter, because the bees must spend a great deal to rear brood at a time when the yield from the fields is next to nothing. It is also known that when the bees are wintered in the cellar, they consume even more honey afterwards, because there is no breeding, or very little breeding, in the cellar.

In addition to feeding for the necessary support of the colony in years of scarcity, many people also feed bees in small amounts to induce breeding, in the spring, even if they are not short of stores. It has been stated somewhere lately, that if bees are fed sugar syrup when they are not destitute, they will store a portion of this feed in the supers, and thus run the risk of furnishing spurious honey. Such an occurrence can not take place, for two or three reasons. First, no one should leave the supers on the hive during the fall, winter or spring. If the supers are left on at any other than the time of the crop, they will become soiled by the travel of the bees; they will be glued up with a large amount of propolis which the bees gather in quantity during the months of dearth and fair weather; and in the winter the supers will prevent the bees from concentrating the heat in the brood-nest. In all my bee-keeping experience, I have never committed the blunder of leaving the supers on the hives after the honey crop. Neither should these supers be put on the hive until the crop is at hand, when there is no need of feeding.

Feeding bees in such an amount as would induce them to put honey, or some of the feed, into the supers, would be inadvisable and unprofitable. As long as such amounts of food are given as will induce them to increase their breeding previous to the honey crop, there is a profit in it, because the bee-keeper is then like the wise general who sees to it that his regiments are complete before he marches them to battle. But if an overdose is given, the bees will begin to produce comb from the food given, and, in that case, since it takes no less than 7 to 10 pounds, and perhaps more, of honey to produce one pound of comb, we will soon find out that there is a loss in overfeeding. In addition, if we overdo the feeding, the cells that should be used for brood may be filled with the honey, and the queen may be cramped for want of room to deposit her eggs. So feeding to induce breeding must be done with a great deal of circumspection.

Yet, there is no doubt that stimulative feeding is advantageous, especially if it is done at a time the bees have only sealed honey left, in moderate quantity. The honey which has been preserved through the winter is thick, and in order to dilute it properly to prepare the larval food, the bees are compelled to go to the nearest water and bring a quantity of this water to the hive. All bee-keepers have seen the bees pumping water from troughs, around wells, or from marshy places, in spring. They will go out on a very cold day, when it is hardly warm enough for them to fly about, and will bring some of this cold water to the hive. It is evidently used to dilute the too-thick honey, for just as soon as nectar is found in the flowers we see a decrease in the number of bees around the horse-troughs. When the crop is well on, this water-transportation ceases nearly altogether, to be taken up again as soon as the crop ceases. The nectar of the flowers is usually sufficiently thin to make good larval food without the addition of water.

Now, many of our practical apiarists save their bees the trouble of transporting this cold water, by giving them a small amount of sufficiently liquid food to fill the requirements. This food is warm when given. Just think of the difference between having to go out in the cold to get water—cold water—and finding this water in the hive, warm and sweet enough to serve the purposes for which it is intended!

Yet the practice of feeding for the stimulation of breeding is not generally followed, and is opposed by some noted bee-keepers. This is because it requires a great deal of care and attention, and in some instances it is overdone. But whether we wish to feed to stimulate breeding or simply to keep the colony from starvation, the fact remains, that feeding is often necessary. Warm food a little thinner than would be given in the fall, and in smaller amounts, is needed in spring feeding. As to the nature of the food, I think diluted granulated sugar is the best—even better than honey——because it has less odor, and is less apt to cause robbing. We must remember that the bees have excellent olfactory organs, that the least odor is noticed by them. But they are most attracted by the odor of the product they consume—honey—as well as by the odors of the hive, the smell of old combs, the odor of the queen, etc. So it is of some importance to give them food which does not attract the neighbors, for the colonies which need the most nourishment are often the least powerful and would be the most easily robbed. On the other hand, if inexperienced people think that by feeding sugar syrup in spring we run risk of causing adulteration, they may easily be undeceived. The food given by a careful bee-keeper will all be used up before the beginning of the crop. Otherwise he would have an unprofitable account on his hands. If he is in doubt as to what he should do, let him only supply the bees in their needs.

After this preliminary statement concerning spring feeding, I will take into consideration the feeders in use, and their qualities and defects, for no feeder has yet been devised which is exempt from defects.

Hamilton, Ill.

Effect of the Pure Food Law on Honey

BY W. W. MCNEAL.

The National Pure Food Law may not mean so much to honey-producers, after all, unless it is sufficient to save them from their own follies. The adulteration of honey is a most culpable act, no matter how it is done. But the demand for honey will not be increased materially, nor the price advanced, simply by curtailing the traffic in glucose. It is commonly believed by consumers that pure honey will not granulate, and since glucose retards the natural tendency of honey to candy, it follows, as a matter of fact, that a compound of that kind will be looked upon with better favor than any article which shows a disposition to granulate. The fight for renewed integrity and better prices must be waged more particularly against adulteration with cane-sugar. While the standard of conduct bee-keepers hang up for themselves continues to look bad under the lime-light, the public will not take kindly to anything that may be said about pure honey granulating. Honey-producers should study their occupation more from the standpoint of the consumer; should see themselves as others see them.

The time has fully arrived for the introduction of extracted honey in the granulated form. But it will require something more than the persuasive influence of a new law to convince an incredulous public that some of the lies told about manufactured honey are not true. What does it avail one under present conditions to produce a gilt-edge article when such exceeding taste only serves to confirm the belief of the consumer that it was really manufactured? It is lamentable that such a state of affairs exists; and, moreover, that it should foster slovenly habits in the preparation of honey for market. But it need not be so if the fraternity will act in concert for the betterment of these conditions.

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The education of the people to the true nature of honey is most essential at the present time, and, like charity, it should begin at home. Every one who is familiar with honey knows very well that nearly all kinds of pure honey will granulate sooner or later. No real benefit can be derived from trying to devise means to prevent it, while such means only tends to keep alive the old delusion that pure honey never granulates. If every owner of bees in this country would convert a few of the most skeptically inclined among his acquaintances, by practical demonstration in the apiary during the season of 1907, and send them out as eye-witnesses to the methods employed in the production of honest honey, there would soon be a reversal of public opinion in regard to manufactured honey.

There can be no substantial rise in the price of honey so long as the consumer believes it to be largely composed of granulated sugar. He has access to the same source, and granulated sugar makes a fine syrup for table use. He may be expected to exercise the same business judgment in the purchase of sweets as in other things, and the cheaper article will be substituted for daily consumption, and honey only for "state" occasions.

Extracted honey has been regarded with even blacker suspicions than comb honey, for it granulates more readily, and can be adulterated more easily with glucose.

I think adulteration with sugar is more often practiced in the production of comb honey, for its identity is almost entirely lost when blended with pure nectar by the bees while engaged in the process of comb-building. Its identity may be lost in so far as ordinary means of detection go. But a wrong committed cannot be justified by art in the practice of deception. Chemical analysis, if it counts for anything, should be able to tear away the gilded mask and reveal the act in all its ugliness.

I cannot see the fairness in selling comb honey by the piece, or by the case, while extracted honey must be sold by weight. Neither can I see why the latter should be labeled according to the nature of the contents, while anything stored in honey-comb is not subject to the same rule or law. There should be equity in all cases. The consumer who buys comb honey is entitled to 16 ounces to the pound, just the same as when he buys extracted. Those who insist on the right to discriminate when they have comb honey to sell, should be willing to be governed in like manner when purchasing their own table supplies. But it seldom proves that way. No cat-in-the-bag business "goes" with them when the farmer brings butter, or the grocery-man coffee and sugar. It's a poor rule that won't work both ways.

Confidence in one's integity or veracity is more potent than law in building up a honey market. That which instills confidence of the right sort is not the legitimate fruit of civil law. The people want better reasons for their faith in humanity than laws of their own making. There have been good laws on the statute books saying "Thou shalt not," ever since our ablest men were little boys, "and then some;" yet people lock their doors just the same, and take no man's word for anything where money is involved. Law is all right in a way, but the power that causes one to do right for right's sake emanates from a source beyond the jurisdiction of civil law. The old, old admonition to do unto others as we would wish to be done by, is a mighty safe rule to follow in all temporal affairs, including the honey-business. But we must advertise and let people know who we are, and what we are. No pains should be spared to enlighten the purchaser in regard to the different colors and flavors of honey, and, above all, its tendency to granulate. If he is allowed to go on his way with no word of explanation, either verbal or by the printed page, he is almost sure to gather wrong impressions, and say damaging things about honey.

Legislation for the restoration of confidence and better prices must in very truth put a ban on sugar as well as glucose. Here is hoping for pure honey and a general toning up in the demand for it. We don't need better prices, for the consumer is already chafing under the burden of high prices. What can we hope for by pushing the price up still higher?

Wheelersburg, Ohio.

Putting Bees Out of the Cellar

BY C. M. DOOLITTLE.

I see by the bee-papers that bee-keepers have trouble with their bees mixing when setting them from the cellar in early spring. And this is not confined to the novice alone, for I see some of our oldest and most practical apiarists report that through an east wind or hot weather when setting the bees out, some of the colonies become strong beyond measure, and others correspondingly weak, through the bees "drifting" over certain parts of the apiary, or congregating more thickly in certain places than others, until half of the hives are far too populous for the best welfare of both the bees and their keeper; while other colonies become so weak from this loss of bees, that they are unprofitable entirely, unless there is a late flow of honey from fall flowers.

To overcome such mixing of bees on their first flight in spring, various plans have been proposed, such as setting the bees out at night, putting each colony on the stand it occupied before, etc. The putting-out-at-night plan is extremely risky, for we cannot tell with any assurance but what the weather may become so cold by morning that the bees can not fly, and should it continue so for any length of time, as frequently happens, the bees suffer much more than they would had they not been disturbed. And as to putting each colony on the same stand it occupied the preceding season, we more often than otherwise do not want to do it. Those who are familiar with bees know that the young bees, when it comes out of the hive for the first time, marks its location by turning its head toward the hive upon taking wing, when it commences flying in front of the hive in circles, each circle growing larger as it goes further from the hive, until it is lost from sight. In this way the exact spot of "home" is located, after which no more precaution needs be taken, for it seems to remember ever after where home is. For this reason it leaves its hive on all subsequent times in a direct line of flight, never looking at the hive at all, so that if the hive is afterward carried to a new location the older bees do not seem to know it (unless carried two or more miles away), but sally forth only to return to the exact spot where they first marked their home, there to die a homeless wanderer, unless there are other hives near at hand which will admit their entrance.

Now, while as a rule, this is true, no matter whether the hive is moved at night or in the day time, yet I find that there are two exceptions, one of which is in case of a swarm, and the other is the first flight in spring. While the bees always seem to know where their old location was, so that the swarm, or bees in the spring, can return if they so desire, still a swarm does not so desire except from loss of the queen, nor do bees in spring, if set out in the following manner:

As soon as the hive is brought outside of the cellar door, close the entrance with a wet cotton-cloth, one sufficiently large so it will tuck snugly all about so as to leave no holes through which the bees can see the light. In this way the bees are securely shut in the hive, for there is nothing that a bee dislikes to crowd by more than a cloth saturated with cold water. By having a lighted smoker both at the cellar door, and at the stand we wish the colony to occupy, we are ready to advance our aims further. As soon as the wet cloth is snugly over the entrance, turn back one corner of the wet cloth and blow in smoke till a loud hum greets your ears, when you are ready to carry the hive to its stand. Now put a clean, sweet bottom-board on the stand the colony is to occupy during the season, when you will turn back a corner of the wet cloth again and blow in about the same amount of smoke that you did at the entrance of the cellar, tucking back the wet cloth again, when you will proceed to loosen the bottom-board from the hive by prying out the crate-staples, or whatever fastened it to the hive, when the hive is set on the clean bottom-board and the entrance adjusted to the amount you wish for early spring.

The bottom-board the hive was on all winter is now cleaned and placed on the next stand, when you are ready to get and treat the next colony and all future colonies brought from the cellar in the same way. By this plan the bees do not rush out pell-mell, as they are likely to do in the usual way of setting out, but come out more slowly, as do those of a swarm in marking their location, or as do the bees from a colony which has been wintered out doors, when they take their first flight in spring.

Who ever heard of colonies mixing

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on their first flight when they were wintered out on the summer stands? They do not do so to any amount. It is the using of no precaution, but allowing the bees to rush out from their hives when in an aroused condition, brought about by the setting from the cellar, which causes them to stampede out of their hives *en masse,* so that they hardly know where they are, and thus when they come to wish to go back home they go where the most noise is made, or where the wind drifts them, and thus we have one part of the hives overloaded with bees and the others nearly ruined from the loss of bees which have stampeded where they did not belong.

By using smoke as I have given above, the bees are more slow to leave the hive, if anything, than under any other condition, and I have had no trouble since I adopted this plan. And this is especially applicable to the out-apiary. In the home-yard we can set the bees out during several days, as many each day as we desire, or adopt almost any plan that we may choose; but when we travel miles to an out-apiary, we wish a plan that will allow of our setting out the bees on *that* day, and just *when* we are there, setting all out at once, just as fast as we can carry them out.

And after using the plan as above given for six years, with perfect success, I can assure the reader that in it we have something which is of great value, especially for an out-apiary, where the bees are wintered in the cellar there, or in a pit or clamp, as the case may be.

Borodino, N. Y.

The Behavior of Swarms

BY ADRIAN GETAZ.

In a previous contribution, I stated that the Societe des Apiculteurs du Department de la Meuse had sent its members a series of questions concerning the swarming of bees. The first 21 questions were about the conditions that provoke the bees to swarm. The following questions were in regard to the behavior of the swarms after issuing. These are the subject of this contribution.

Returning to the Hive.

About 2 percent of the swarms issuing return to the parent hive almost immediately after issuing. Several reasons may induce a swarm to return, but the failure of the queen to accompany the swarm is undoubtedly the most common. A swarm that returns is liable to issue again either the same day or the following day. Out of 5 swarms that return, one on an average does not swarm again. In such cases there has been a fight among the queens in the hive and one or more can be found dead in front of the hive. The dead queens or bees are never carried more than 4 or 5 feet from the entrance.

Distance at Which a Swarm Settles.

Out of 100 swarms issuing with laying queens, 12 will settle at less than 15 feet away; 34 between 15 and 30 feet; 23 between 30 and 45 feet; 21 between 45 and 60 feet; 7 between 60 and 90 feet; and 3 between 90 and 200 feet.

As to swarms with virgin queens, they may go anywhere, even a mile or two before settling.

The next question was in regard to where the swarms settle in preference, whether on trees, on the ground, or in empty hives. Unfortunately, the printers left it out in the blanks sent, so it is not answered. But the one following immediately, and asking how high from the ground the swarms settle (except those settling on the ground) brought out the fact that half of the swarms settle at a height of 3 to 6 feet, and a fourth between 6 and 12 feet above the ground, the remaining fourth higher or lower.

Form of the Swarms.

Not considering those that settle on the ground, about 70 percent in settling assume the regular shape so often described; the others assume irregular forms.

Direction of the Flight.

The direction taken by the swarms depends chiefly upon the position of the hives in regard to the bees, walls, etc., that may be about them. The information given is very indefinite. It seems that the majority of them go right straight from the hives. The figures given seem to show, nevertheless, a tendency to turn toward the sun, that is, toward the east in the morning and toward the south in the middle of the day.

Comments.

In considering the above, and drawing conclusions, the conditions under which the observations have been made must be taken into consideration. The majority of the European apiaries are small and usually established in an orchard or a garden. These are ordinarily enclosed by a wall or a tight fence or a hedge. Outside there is often nothing but the open fields, with no kind of settling place at all. The hives, instead of being scattered, are, in most cases, placed close together, sometimes 2 and 3 rows one above the other upon shelves, a roof on the whole, and a wall behind, leaving a passage between the shelves and the wall. Often there is a special wall, the one enclosing the garden or orchard taking its place. The "rucher," as such an apiary is called, is placed against the northern or northwestern wall whenever possible, so as to have the hives turned toward the south or southwest.

As a matter of course, under such circumstances the bees settle on whatever tree or bushes that happen to be in the enclosure, and if there is none, they have to settle on the ground, or go away perhaps quite far to find a suitable place.

In My Own Apiaries.

The situation in my own apairies is not at all like the above. The one at Middlebrook is situated near some tall trees. In front of it, but at a lower level, are quite a number of cedar trees, about 30 to 50 feet high.

The majority of the swarms settle on the cedar trees usually at some place between the lowest branches to the middle ones, that means 15 to 25 feet above the ground. Perhaps if the land were level instead of sloping down, they might not settle so high. The few swarms that go to the tall trees invariably settle on some of the lowest branches. But that means 40 to 60 feet from the ground.

The Beaver Creek apiary is situated in a grove of tall oaks sloping toward the southwest. The back of the apiary is on the edge of the grove. The bees either settle on the lowest limbs of the trees in front of the hives or in the orchard which is across the road about 200 yards in the rear of the hives. Once in the orchard, they settle on some of the nearest trees which happen to be some rather low plum-trees with very thick branches.

Right here one may ask why, in the Middlebrook apiary, they almost invariably settle in the cedars in front of the apiary, and in the Beaver Creek apiary they settle at least half the time in the orchard behind the hives. In observing the bees when they swarm, it is easy to see that as they come out they begin to circle round and round. As more bees come, that circle or rather sphere of flying bees gets larger and larger, and finally occupies a space of some 30 or 35 feet in diameter right in front of the hive whence they started out, and, after circling a while, they settle on the nearest convenient tree or bush. If, however, the space in front of the hives is encumbered by trees, and there is a more convenient opening near by, they drift toward that opening and do their circling there. That is what happens at the Beaver Creek apiary; the space between the orchard and the back of the apiary is without trees.

Sending out Scouts.

Yes, the swarm issuing sends scouts, or some of the bees. Perhaps only one, perhaps several go out to see if there is a suitable place; very likely to find out if some place noticed before during their trips for honey is yet available. Perhaps they go several together, perhaps each one goes where she knows a place and the first one that gets back carries the swarm to the place she has selected. If so, the others when getting back, finding the swarm gone, have nothing to do but to return to the parent hive.

But I have no doubt that something of the sort takes place. My Middlebrook apiary is on the pathway to the district school. I am not always there, and sometimes when the boys are passing along and find a swarm hanging on a tree, they throw rocks, sticks, etc., at it just for fun. Usually the swarm is dislodged and re-forms at some distance, usually much higher on the tree selected. In such a case the swarm is apt to stay and begin comb-building at the place chosen. My idea is that the scouts failing to find the swarm go back to the old home, and the swarm not receiving any information concludes to stay where it is. My experience in that line is not very extensive, as I have during the last few years succeeded in controlling the swarming, or rather the swarms, almost completely.

Another fact in this line might be

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interesting to the readers of this paper. A swarm had settled on a plum-tree at the Beaver Creek apiary. I got the ladder, smoker, etc., and went up near the cluster with everything ready, without disturbing them in the least. All at once they "got up" and left. What surprised me was the manner in which they started. The cluster was perfectly quiet and seemingly contented. A few bees at one side of it got up (if I can use that expression) and began whirling round and round right by. The others followed in succession, not all at once, neither from all parts of the cluster, but right from next to where the others had started. The appearance of the cluster was as if something were eating a hole in it. When only about a third, or perhaps a half, of the cluster was left, the remainder disbanded altogether, and the swarm departed for parts unknown to me, if not to them.

QUEENLESS SWARMS.

During my experiments on the swarming question, I had entrance-guards on the hives, and many times left them throughout the season, except when it was necessary to let a young queen come out to mate. The behavior of such swarms is quite peculiar. The first time they issue, they will stay out only a few minutes, and go back. They are sure to come out again the next day quite early, and, in fact, for successive days if the weather is favorable. But at the second issuing they will stay out longer than at the first; at the third, still longer, and very likely cluster for a while. Later on they may stay out the whole day, and even a part of the next day, before returning.

Their mode of clustering is different from that of a swarm having a queen. Instead of assuming the regular orthodox shape, the cluster is of a more or less ragged, irregular and often scattered shape. The bees are restless, moving constantly and changing the shape of the cluster all the time. Sometimes they break into 3 or 4 groups, change place from one tree to another, fly around a while and cluster again, or do any other unaccountable thing.

Sometimes, just before returning, they take a trip outside, (I wonder if they follow a scout), but much more slowly than a regular swarm, much closer to the ground, and in a less compact form. They scatter more and more as they go, and if the apiarist has followed them, he finally can not tell where the swarm really is. If he then go back, he will often find them going back into the old hive, but in a very straggling manner, not at all as they did during the second or third day, or even the fourth.

A FEW KINKS IN SWARMING.

An excellent way to get a swarm that can be reached with a pole is to put a bucket with some honey at the end of the pole and present it to the bees. In a short time they will leave the branch and cluster in and around the bucket, and can easily be taken away.

For several minutes before a swarm issues, a few bees can be seen whirling around right before the entrance of the hive. If the apiarist stoops down, he will hear inside of the hive, the same buzzing sound that is made by a swarm just out of the hive, and then act accordingly. When the hives are up 2 feet or so from the ground, and especially when the entrances are above the brood-nest, that peculiar sound is easily noticed, even by one merely passing by.

The queen does not often come out until one-third at least of the bees are out. If, when the swarm begins to issue, the apiarist is on hand, the best thing to do is to close the hive at once with anything that happens to be at hand. My veil and handkerchief have often done the duty. Then get some water, open just enough to let 2 or 3 bees come out at a time, and wet them as they pass out. That will fix them for that day. The apiarist can then divide them or remove the queen or the queen-cells, or do whatever he thinks best, and save the trouble of running after the swarm and hiving it.

Knoxville, Tenn.

Bee-Keeping in Cuba

BY G. C. GREINER.

Strange as it may seem in this enlightened age of profuse bee-literature scattered all over the land, it is a fact, that, to the great majority of people, bee-keeping is yet an impenetrable mystery.

A short time ago I stopped at one of our tonsorial parlors for the purpose of having the customary improvement of my physical make-up administered by the hand of the artist. Being well-acquainted with the proprietor, our conversation turned, as is frequently the case when I am in places where my occupation is known, to the subject of bee-keeping. A stranger who was present, and who was also awaiting his turn, seemed to be very much interested in our bee-talk, and at last he said:

"They keep a great many bees down in Cuba, but they don't get much surplus honey down there. The trouble is right here: There it is summer the year around so that bees can work all the time, and they soon find out that they don't need any winter-stores, and consequently don't lay up anything ahead. I knew of one lot of bees that produced an awful pile of surplus honey the first year, but they 'got on to it' and never produced a bit the next year."

Then the following conversation took place:

"My friend, somebody has loaded you down with a lot of the most unreasonable nonsense."

"Nonsense?" he ejaculated with excited emphasis, "No nonsense about this. I have seen it myself. I have been there."

"Well, if you have seen it yourself, I can not dispute your word, but you are certainly most awfully deceived. How could your bees 'get onto it' when you had not a single bee of the first year's stock left to see the second year?"

"I know better. Every bee we took there from Florida the first year was alive the second year—not one of them died; and I know it to be so, for I stayed there all the time."

"Here is where you are deceived again. You might have had the same hives, and perhaps some of the queens left, but your bees had changed quite a number of times since you took them there. The life of a worker-bee during the summer—which we may call the honey-season—is about 6 weeks, and if Cuba has summer the year round, as you say, you can figure out yourself how many generations had passed up to the time you claim they 'got onto it.' Thus, you see, it is positively impossible that your bees had any recollection of what transpired the year before; and, besides, admitting that you had the same bees, it is not forethought—bees have no reasoning power—that induces them to store winter-supplies, but simply Nature's instinct and desire. As long as Nature provides the nectar, bees are willing and desirous to gather it."

As an additional proof of our friend's unsound argument, I intended to explain to him a few points on Cuba's honey-flows, but he had seemingly lost all interest in bee-keeping, and would not remain any longer. He departed in a very abrupt and unceremonious way, not even waiting his turn in the chair.

A few neighbors, who had listened to our little chat, were anxious to continue the bee-talk, in yhich I gladly joined, for, in doing so, I generally find an opportunity to turn the conversation into an advertising medium, by giving a few pointers on honey as food and medicine.

LaSalle, N. Y.

Annual Report for 1906 of the Colorado Honey-Producers' Association

To the Stockholders of our Association:

In order to make my report complete, it is necessary to review the conditions that existed during the year previous. As you all know, the season of 1905 was the most disastrous to the bee-keeping interests of Colorado and adjoining States of any that we have passed through since our industry became of any consequence. With exception of a few isolated localities, no surplus was produced, and in many cases feeding had to be done to insure the wintering of our bees.

In order to supply our home trade with honey until the 1906 crop would come in, it even became necessary for the Association to ship in honey from other localities. The bee-supply business of the Association fell off, in conseqence of the crop failure, to less than one-third of its ordinary volume, and as many supplies were carried over by bee-keepers, there was also a light trade all through 1906. The very fact that our Association has been able to keep everything going in good shape under such trying conditions, meet all its obligations promptly, and hold its honey-trade, should be highly satisfactory to the stockholders.

However, we have passed through this ordeal, and the honey crop of 1906 has been a satisfactory one with most of the members of our Association.

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Bees have gone into the winter in splendid condition and have a stock of good quality honey in their hives, which should insure their safe wintering. So the prospects for the coming season may be termed "good."

The volume of our 1906 honey-business has been very satisfactory. Besides handling our members' honey, we have also handled quite a quantity for non-members. Many of these will no doubt see that it is to their advantage to come in and become stockholders now, and thereby reap all the benefits of this truly co-operative association of bee-keepers.

Our Association is now well known to every car-load buyer of comb honey in the United States. We have the reputation of shipping a well-graded article, put up in an attractive manner, and of being thoroughly responsible. *This reputation is our most valuable asset, and it behooves every member to do his share in upholding the same by putting out nothing that is not strictly up to grade.*

The prices realized by the Association for honey sold have been the highest of any comb honey shipped out of the West this year (1906). No. 1 honey, graded according to Association rules, has brought an average of $2.75 per case, and $2.50 for No. 2 grade. The returns have all been received and turned over to the respective producers by the Association, and, now that the year's business is closed, we are happy to be able to announce that *we will be in a position not only to declare a* 10 *percent dividend on the stock for the past season, but also for the year* 1905, *when we had a crop failure. Besides this, every cent of the commission paid by members during the season of* 1906 *will be paid back to them in the form of a rebate.* This is the best showing we have ever made, and should be highly satisfactory to every member.

We did nearly as well in former years, and in order to give our new and prospective members an idea of this, we herewith give a brief abstract of the account of one of our members. This shows what he has paid in commissions on his honey-sales for the last seven years, what he has received from the Association in rebates and dividends in that time; and that it has cost this member only a trifle over 2 percent to have the Association handle his honey crop for the past 7 years, besides receiving $136 in dividends on his stock during this period.

Taking into consideration that the Association took the honey into its ware-rooms, paid insurance on it, attended to all the details of selling and collection, it is evident that this producer could not possibly have marketed his honey with as little expense himself. Another matter not to be lost sight of, is the great saving of time that would otherwise be spent by the producer in marketing his product, and avoidance of worry incident thereto.

At the last annual meeting of the stockholders, it was pointed out by the manager that, in order to have our business grow, the working capital of the Association should also grow correspondingly. We now are obliged to carry a much larger stock of bee-supplies and honey than we formerly did, besides having accounts with reliable firms that average about $2,000 per month. Our store is inadequate for the business, and we have to warehouse now a portion of our stock of supplies. There is now more money invested in merchandise, etc., than our present working capital justifies, and it is for this reason the rebates are held over until the next December. To remedy these conditions, it becomes necessary that every member should subscribe for more shares of stock. After a discussion of this matter at the annual meeting, a motion was made and passed that every member should be asked by the secretary to take one-third or more of his annual rebates in stock until all the capital stock of the Association has been sold.

It is hoped that every member will not only subscribe for more stock, but will also exert his influence to get other bee-keepers, who produce good honey and grade carefully, to become stockholders in the Association. The stronger we get financially and numerically, the better work can we accomplish. It seems that it should not be necessary to urge bee-keepers to increase their holding in a co-operative company that brings them such good returns on their investment. That the same is considered perfectly safe by those most intimately acquainted with its working is evidenced by the fact that its Board of Directors, who were already some of the heaviest stockholders, have subscribed for more stock.

For several years it has been a rule of the Association to make the rebates on the commission sales payable on the first of December following, thus allowing the Association the use of this money for another season, and the following plan has been adopted for this year:

1. To pay the 1905 dividend of 10 percent on the stock at once.
2. To pay the 1906 dividend of 10 percent on the stock June 1, 1907.
3. To pay the rebates on the 1906 honey sales of members on December 1, 1907.

Always remember that the business of the Association is your business, and that you should give it all the support you can.

Wishing you all a successful season, I am

FRANK RAUCHFUSS, *Manager.*

Denver, Colo.

Convention of Bee-Keepers' Associations at Brantford

REPORTED BY J. L. BYER.

(Continued from page 210)

IMPROVING THE BEE-KEEPING INDUSTRY

BEE-KEEPERS' OPPORTUNITY.

What has been done in regard to the fruit conditions in markets might on a smaller scale be attempted for the honey industry. With the production of larger quantities of honey and wax of uniform grades, with the reputation of an association at the back of it, it seems to me that there should be no trouble in very largely increasing the markets, not only throughout the older parts of the Province, but also in the Northwest Provinces. If the fruit men are so eager to take advantage of the ever-increasing market there, why should not the bee-keepers also be alive to the importance of this same market? The former are arranging to exhibit the best product of the orchards at a number of the larger exhibitions throughout the West this year, with the idea of showing just what can be obtained from our associations. I think it would be a very good idea if our honey men would, if necessary, ask the Ontario Bee-keepers' Association for assistance to do likewise.

To increase your markets in the older parts of the country it is necessary for you first of all to advertise your wares as extensively as possible. You are already, I believe, working along this line in regard to local exhibits. Extend this as much as possible. If necessary, increase the size of your exhibits. Make them more attractive and have some advertising material in connection therewith. A very good idea was adopted at the exhibition in Massey Hall two years ago, when a small circular stating the value of honey as a food and medicine was distributed to the public. Such a circular might be printed by the Provincial association and given to branch associations for this purpose.

Then take advantage of the shop windows in your nearest towns and cities. Almost any of the best groceries would allow you the privilege of using their windows once or twice during the year for exhibiting the products of the apiaries. In this connection it would be necessary, of course, for you to keep in stock with the groceryman your best goods for the year, allowing him sufficient discount to make a fair profit on

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the goods, when he will do his best to aid you in increasing the demand.

In regard to the large exhibition, you have always had a very creditable show of honey and wax. With the advent of a new and better building at the Industrial Exhibition, Toronto, this year it would be wise for bee-keepers' everywhere to put forth extra efforts to make this the best show that has ever been put on display there. There has been considerable criticism in the committees of these exhibitions as to the action of the bee-keepers of the Province. They claim that you have belittled the industry by your action in the past. It behooves you now to show them that you have an industry worthy of a first place in the agricultural progress of the Province.

At your last meeting there was some discussion in regard to the formation of local honey-shipping associations, and the majority were of the opinion that some legislation should be sought after, so that incorporation could take place at very little expense. The fruit-growers have been availing themselves of a shipping act passed some years ago, but this act is to be repealed this session, and one new act to cover all joint stock companies is to be issued. Just how this will affect these organizations I do not at present know. However, it is not absolutely necessary that incorporation should take place, as a great deal can be done under a simple set of rules and regulations signed by those who form the association. While you probably cannot work on the same scale as the fruit-shipping associations, still I believe that under careful management much further expansion can be given to the industry by working along these co-operative lines. You will have to work slowly at first, not attempting too much. A great deal depends on the first association organized. If these are successful there will be no trouble in forming them afterwards in any section of the Province.

The Press and Honey.

Probably one of the best sources through which you can inform the public as to the value of the industry is through the local press. Nearly every household throughout the country takes one or more daily or weekly papers, and in the case of the farming classes, at least one of the great national weeklies and one of the agricultural papers. It is very rarely indeed that you will find in the newspapers any articles on the care of bees or the value of the product for food. Of those that do occasionally appear, the substance is sometimes entirely erroneous. The ignorance of the public in this respect is deplorable. For instance, many people imagine that crystallized honey must necessarily be impure. Many people when buying comb honey in lots will put it in a damp cellar, thinking that the proper place to preserve it. Again, very few realize that a small section of honey will go as far as the ordinary quart jar of preserved fruit. Now, what are you doing as bee-keepers to displace such ignorance?

In this connection it would be wise for you to make use of your home paper as much as possible, sending in local items from time to time about your crops, your meetings, general items as to use of honey both as a medicine and as food; proper ways of keeping it after it is purchased, etc. The editors of these papers are generally only too glad to use this matter in preference to the silly jokes with which so many of them are padded. Let the people of your vicinity know that you have good honey and lots of it for sale. Put in an advertisement occasionally and ask for a reading along with it. The more we can enlighten the public on this side of the industry the better it will be for our pocketbooks.

There has been considerable discussion in your meetings as to whether you should endeavor to enlighten the public too much as to the other side of the industry, namely, the keeping of bees themselves. It is hardly necessary to say anything about the profits, but the distribution of all kinds of literature which will help improve the products of the smaller apiaries of the Province will tend in the long run to assist those of you who are doing business on a larger scale.

While at a meeting recently I was told by a prominent gentleman in Toronto that he had purchased last week in Toronto a small sample of honey with the idea of buying larger quantities if the sample proved to be of the best quality. He was very much disappointed to find, however, that the honey was tainted with the wax and bee bread. Now this should not be if you have done your duty in enlightening those who are keeping bees as to the absurdity of extracting their honey in this crude fashion. This is where the value of your bee journal comes in. I cannot impress too strongly upon you the value of having a strong, active paper as your representative in the Province. I understand that there are over 8,000 men who are more or less engaged in the business of keeping bees who do not subscribe for any bee journal. This is not as it should be, and you should make every effort to effect a change. Already the members of the Provincial association get the Canadian Bee Journal as a premium, and I think that it would be wise for every local association to extend the same privilege to their members. You bee-keepers must be up-to-date. Your meetings are held probably only once or twice a year, and in the time between, the only way that you can hold together is through your bee-keepers' journal.

Many of you have improved methods of handling your bees during certain operations of the year, and it would be wise for you to extend the benefits of this knowledge to your fellows. There is no better way than through the Bee Journal. Do it at once, so that they may try it before the season is over.

Patronize first of all your own home journal. This treats largely of local conditions, and is therefore specially applicable to bee-keeping in Ontario. We are, as yet, a young country and we have to stand together to support each other. Be loyal, therefore, to the Bee Journal, subscribe for it, and then if you so wish, to some of the American or British journals. If you have anything to advertise, you should help the Bee Journal in this way, as advertisements are the life of any publication of this kind. Show your neighbors the paper, especially if you come across any article which you think is of value to yourself; let them have your paper to read and then suggest to them to subscribe for it.

If your neighbor is in difficulty about any operations of the year, you should refer him to special publications that will help him out. Pass on your Annual Report to him if necessary and send for another. The department will always be glad to assist you in this way.

The Department of Agriculture.

Two years ago the Honorable the Minister of Agriculture visited the annual meeting of your Provincial association and suggested that the Department of Agriculture would be glad to co-operate with you more closely than in the past. At that time the inspection work for foul brood was put in the care of the department. Last year some further changes were suggested and after being thoroughly discussed by the Bee-keepers' Association, were adopted. This refers to the appointment of additional inspectors to overtake the increase in the work during later years. Now we wish to impress upon you that without the organized co-operation of every bee-keeper we will not be able to do very much to assist you. It is our aim to learn as much about the industry as possible. We are now at work preparing a list of bee-keepers of the Province by counties, together with the number of the colonies belonging to each. This will allow of our corresponding directly with every man interested in the Province. We will be able to distribute any literature which may be published from time to time to a great many people who at present are not touched by your local or Provincial association. We hope in this way to get them so interested that they will become members of some of these associations. We will be able also in this way to impart information in regard to foul brood and perhaps to receive information re infestations of this disease at an earlier date than we would otherwise have received it in the past. We trust also that we will be able to keep a record of the inspection work which will probably facilitate in the suppression of this terrible disease.

The census reports for 1901 show that there are in Ontario 116,403 colonies; in 1891, ten years previous, the number was 146,341. One would naturally inquire the reason for such a decrease. Had this taken place in any of the other agricultural industries in the Province we would have begun at once to inquire the reason why and to have endeavored to repair the loss. With the information which we are now endeavoring to procure, it would have been easy enough to have discovered the reasons for the large decrease. By a conference at the time of the annual meeting, by the help of local conventions, by the distribution of literature and perhaps by the sending

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out of competent speakers to meetings all over the Province, such a loss could perhaps be prevented in the future.

There is no doubt that as beekeepers you have an industry to be proud of. The capital invested in Ontario in 1901 was given in round numbers as $800,000, with a revenue that year of about $300,000, and a product of about 2,500,000 pounds of honey. There is no doubt that this can be very largely increased, and it seems to me that by working together through the local associations, the members of the Provincial association and the department, the markets can be so increased that there will be no fear of lowering the prices, as many of you have expressed the opinion will be the case. P. W. Hodgetts.

Mr. Root—The Ontario Association is to be congratulated in getting a man like Mr. Hodgetts for a Secretary. I feel like trying to induce him to come over to our country.

Mr. Holtermann—You have too many of our good men over there now.

Mr. Craig suggested an apiary meeting in some yard near Brantford in the spring.

Mr. Holtermann—An individual effort is necessary to help bring about the reforms outlined by Mr. Hodgetts, and let us not forget the caution given by that extensive dealer in honey, Mr. Burnett, who says that unripe honey has done more harm to the bee-keeping industry than has adulterated goods.

A hearty vote of thanks was tendered the bee-keepers of Brantford and vicinity for the hospitality shown visitors from a distance and a vote of thanks was also tendered the American visitors for their help in making the convention a success.

A Brief Report of the Illinois Convention

Held at Springfield, Nov. 21 and 22, 1906

Tuesday morning, President Smith said: "Members of the Association, I have to congratulate you that we have been permitted to meet again, in our sixteenth annual session. While the year just past has been one of disappointment to bee-keepers, we all look forward to the coming year with hopes that it may be a year of plenty and success. I have met more bee-keepers this year in the State of Illinois than in any other year. They all seem encouraged in regard to wiping out foul brood, wherever it has been known to exist. As to black brood, I have not seen it. Not having learned any difference I call it all foul brood. Being doubtful about it, I sent a sample of it to Washington and it was pronounced, not black, but common foul brood, as I had thought. While our neighboring States—Michigan, Indiana and Ohio—have it, it may develop within our territory, sooner or later.

"I wish to thank you, gentlemen, for courtesies in the past. We will now proceed with the business of our annual meeting. The Secretary will please read the minutes of the last meeting."

Secretary Stone said that the proceedings of the previous meeting all had been published in the Annual Report, and it seemed unnecessary to read the minutes since they were already in the hands of the members.

Mr. Dadant moved that the printed report be accepted as the minutes of last meeting, which motion was seconded, and, on being put by the President, was carried.

The President called for the Secretary's Report:

Report of the Secretary.

The Association expressed the wish last year that along with the other work of the Secretary he have printed some cards to be used in an effort to increase the membership. The first move in this direction was to have prepared some return postal cards and these were sent to all the Crop Reporters throughout the State. We received in this way 1130 names of bee-keepers. We also secured another list containing 1186 names. After arranging the two lists alphabetically, and comparing them, we found only 94 duplicate names, and a total of 2222 names. In all this number only 94 duplicates is an evidence of thousands of bee-keepers still, whose names we have not been able to get. With 873 names received through the Crop Reporters of the State after canceling duplicates, they reported 20,361 colonies of bees, which was an average of 23 1-3 colonies per bee-keeper.

Number of names reporting number of colonies not known, were 163. Including the numbers recorded in our 5th Annual Report as living in Illinois, with the above-named numbers, we have a list of over 2450 bee-keepers in Illinois, and with an average of 23 colonies we have a total of 56,350 colonies, which with a very low average of 40 pounds per colony would be a possible 2,254,000 pounds of honey in one year.

In letting the bids for our 5th Annual Report, George W. York, of the American Bee Journal, being the lowest bidder, got the contract for 1000 copies —300 of which were to be cloth-bound—for all of the members of the State Association as well as for those who came through other affiliated associations of the State.

As our 6th annual report is not likely to be out in time to place copies in the hands of the legislators, we do not think that more than 500 copies can be used, with as many of that number bound in cloth as we are likely to have members.

In one or two cases our membership blanks were returned to us, wherein the writer said: "My bees have never had foul brood, and I do not see any use of a foul brood law." But when this man's bees got foul brood he was the first one to cry out; "I have just as good a right to protection as you members of the Association have, for I pay as much taxes as you do." To be sure he has in the eyes of the law, —does he get it? It is not reasonable to expect the inspector to leave a man who has done all he can to help procure a foul brood law till last, and go first to the man who did not want the law, and did all he could to discourage its passage.

Some bee-keepers who live only for self, and know nothing about foul brood, have even told their representatives that they did not care whether we had a foul brood law or not, as their bees had never had it, and they did not fear it.

In concluding, I wish to say, the action which the National Bee-Keepers' Association took when it passed a resolution allowing all bee-keepers' associations throughout the United States (or the entire continent, I believe) to join them in a body through their respective secretaries on payment of 50 cents per member, did more to promote bee-keepers' organizations, and increase the membership of those already formed, than any act that we can do to help ourselves. All bee-keepers are anxious to be members of the National, as it assists them when being imposed upon, so long as they are in the right. And every association should sacrifice one-half its fees and thereby help their own and the National Associations.

We were told during the year by the General Manager that our State stood at the head in the list of members to the National. (Later we see in the Report of the National that Illinois stands 2nd, with 282 members; Wisconsin 1st, with 307 members; New York 3rd, with 210, and California 4th, with 206.)

We have great faith that our membership will never be any smaller, but hope for greater numbers as the years of prosperity for bee-keepers come this way. We can ask a bee-keeper with the best of grace to join our Association, because we are getting memberships in the National with the same $1.00 fee. Jas. A. Stone, Sec.

First Day—Afternoon Session.

The afternoon session was opened with the reading of the following paper by C. P. Dadant, President of the National Bee-Keepers' Association, on

DRONE-LAYING WORKERS

When a colony of bees becomes hopelessly queenless, it often happens that a number of the worker-bees—sometimes only one or two, sometimes dozens of them—begin to lay eggs in the cells here and there. Scientists affirm that the drone-laying ability is found in bees that have probably received a greater amount of the royal jelly than the average larvæ during the course of their development. This jelly or pap, produced by the salivary glands of the nurses, is fed exclusively to the queen-larvæ during the entire time of their development, while a coarser food, containing pollen or bee-bread, is fed to the larvæ of the worker-bees during the last stages of their larval existence. It is asserted that those workers that receive a little more than their share have ovaries partly developed; and while they are entirely unable to become impregnated, owing to the rudimentary condition of both spermatheca and ovaries, yet the rudimentary ovaries may produce eggs in small quantity. These eggs, like those of queens that

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have been unable to mate, hatch drones only. It is probably unnecessary to state the well-known fact of parthenogenesis in bees, which is the faculty of laying eggs by virgins, eggs which invariably produce males. This discovery is due to the immortal Dzierzon, and was long doubted by many, but is capable of absolute demonstration.

When a colony becomes hopelessly queenless, that is, when there are no eggs or young larvæ from which may be reared queens, such bees as may have the ability to lay eggs seem to consider it a duty to replace the missing queen within the limit of their powers. One or more worker bees assume this duty. But their eggs are laid irregularly, sometimes several in one cell, and sometimes on the side-walls of the cells instead of at the bottom. I have myself seen a half-dozen or more workers laying, at the same time, on a comb which had been taken out of the hive for inspection. Such a sight may be witnessed more readily with the Italians than with the common bees, because they are less excitable and do not become frightened and rush about when the combs are removed from the hive with a little care.

Sometimes the laying of an old queen that has lost her fertility is mistaken for that of drone-laying workers. This is of some importance, for although a queen may be successfully introduced to a colony containing a laying worker, it is almost impossible to succeed in the introduction of a new queen, if there is an old queen in the hive.

The only way to make positively sure of the presence of an old queen is to search for her. But there is a slight difference between the laying of a worn-out queen and that of one or more laying workers. The old queen lays but few eggs, and these are always at the bottom of the cells. She rarely lays more than one egg in a cell, this incongruity being committed only by laying workers, or sometimes by very young and very fertile queens which lack room, and have not yet reached their full ability in regular laying.

I have stated that it is easier to introduce a queen to a colony containing a laying worker than to a colony containing an old queen, unless this queen has been found and killed. I know that this statement will not be concurred in by many others, for I have often seen it stated that it is impossible to introduce a queen to a colony having laying workers; yet I have never failed. I speak from actual experience. Before I state how I have succeeded, permit me to say that a colony having laying workers is rarely worth saving. Yet there are times when such colonies are still powerful enough to make a good colony if a queen is successfully given them early enough in the season. The apiarist must decide this point for himself.

In order to show how to succeed, I will state under what conditions I tried the introduction of queens in drone-laying colonies. We used to import queens on a very large scale. This was in the '80's. We used to receive from Italy about a hundred queens per month during the summer months. As these queens were fatigued from their long journey, we always introduced them to full colonies of bees in our apiary, before re-shipping them to our customers in the United States. The price obtained was sufficient to reward us for such a course, and when a queen had been for 3 or 4 weeks in a full colony, she had fully regained all her lost vigor, and was much more likely to be satisfactory to the purchaser than if she had been held in a very small nucleus or in a queen-cage. Besides, this introduction gave us new blood in the apiary. Owing to this course we had to kill a number of queens each month, usually of the common race or of the hybrids. These spare queens were quite often prolific, and it seemed a pity to kill them. It was then that I attempted to save a good queen and a worthless colony at the same time,

C. P. Dadant.

by introducing the one into the other, by the ordinary method of caging the queen for 48 hours in the hive, and releasing her by inserting a piece of comb honey in place of the stopper of the cage. This method has never failed, and I attribute it to the fact that the queen introduced was in each instance a vigorous laying queen in the fulness of her power.

In the introduction of queens that have been traveling there is almost always a delay in the laying; the new queen does not take possession of the empty cells immediately, and for this reason the bees that have one or more laying workers will have an animosity towards her that they will not entertain towards a queen that is able to lay eggs at once, and thus show her ability to fill the needs of the colony.

My conclusion, therefore, is that although it is more difficult to introduce a queen to a drone-laying colony than to a normal colony, this may be successfully done by the above method. But I would never risk a queen which has been confined to a cage for some days to any but a normal colony made queenless just before introducing her.

A good laying queen introduced to a drone-laying colony in May—if this colony has still enough bees to take care of her brood—will rear a populous colony for the fall crop of honey, and will often prove a paying investment. For this reason, queens bought from reliable Southern breeders in early spring are a great help to the Northern bee-keeper. C. P. Dadant.

Mr. Dadant's paper was received with marked attention and brought out a most interesting and profitable discussion, though Mr. Dadant apologized for his subject. Nearly all the members participated in the exchange of ideas and relation of their successes and mistakes along the line of experience which was under consideration.

Mr. Black asked if the drones produced by working bees were as good for the fertilization of a queen.

In answering the inquiry Mr. Dadant said that such drones were smaller, and on that account less desirable for the purpose.

Mr. Black told of his experience with a very small queen—the smallest he had ever seen—that was with his bees for 4 years, to his certain knowledge, proving herself a good queen. He recognized her by her size.

Mr. Kildow and Mr. Pyles told of putting unfertilized queens into a hive before they had taken their wedding flight, and still proving good queens. There was doubt expressed by some members as to whether they were unfertilized, or whether there might not have been other queens in the hives so treated.

Mr. Stone—I was induced to give Mr. Dadant this subject because of the little experience many of us have had in handling queenless colonies with laying workers, and the questions that arise in regard to their management.

Mr. Johnson said he believed there were generally a good many laying workers in the hive. He had never lost queens, but united them by putting smaller colonies on top.

Mr. Black spoke of his method of uniting colonies; that formerly he was very careful about handling them gently, but experience has taught him it is better to handle them more vigorously.

Mr. Dadant said that in the matter of uniting a colony containing laying workers he thought that the entire secret was in what Mr. Black had said, and in allowing the bees to feed before they were disturbed, in which case they would be much more peaceable when united. In certain seasons the tendency among bees is to fight. When you open a hive, if they are full of honey there will be much less tendency to fight than if they are not well satisfied in that respect. Colonies that have drone-laying queens will be more successfully handled in the spring, both in the matter of uniting them and in the introduction of a new queen.

Premium List Committee's Report.

Mr. Stone said he thought the members of the Association were familiar with what had been done last year. Some fault was found with what was done. The premium on beeswax was raised from $10 to $20. Mr. Cater, the superintendent of the department said they had $50 that could be put into that list and no more, without getting the consent of the Board. Mr.

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Stone then hastily telephoned Mr. Becker. The meeting of the State Board was within two days. Mr. Cater agreed to have them raise the premium list $1o on beeswax designs, and add a premium on Samples of Extracted Honey, and one on Case of Amber Comb Honey. The State Board always treats us kindly.

Mr. Becker—I think we had better let it alone for this year. It has been a bad year.

Mr. Black—The State Board wants a show, and they want the worth ot their money. They think they are getting no more interesting show anywhere on the grounds for their money.

Mr. Dadant stated that he had been selected as judge of the apiary exhibit at the State Fair, and that one thing he would like to see would be the placing of that exhibit in a hall where there is a platform so placed that when the extracting of honey takes place it might be witnessed by a large number of spectators. As it has been, four or five people can get close enough to see, and they exclude from the same privilege everybody behind them. He strongly recommended the great convenience of having the extracting done where there is a platform, and where people could see the work done. In which case there could be competition in the work of extraction.

Pres Smith—I think that is a good suggestion.

Mr. Stone—I do not believe that anything has been done, or any other exhibit made, at the State Fair that has proved more attractive or interesting than this. Extracting honey on the ground is educational.

Mr. Dadant—I wish to say a few words more in regard to the education of people and the cultivation of a taste for extracted honey.

Mr. Dadant then told of the great difficulty that had been experienced in selling extracted honey in 1868-9, and how they finally succeeded in getting people interested in it by making an exhibition of it in Keokuk. They got business men interested and aroused such an interest that 300 or 400 buggies were to be seen at the place, bringing people from all around the country. And so the value of extracted honey was brought to their notice. And if people can just be induced to use it, they will prefer it to comb honey.

Mr. Black—I recollect being at Keokuk.

Mr. Becker—While we are on this subject I will say that I think the exhibit at the State Fair has done more to educate people than anything else. People do not know how we get the honey out of the comb. I believe if we had honey enough so that we could extract honey for a whole half day, it would be one of the best exhibits we could make, and would be found interesting to more people than you would at first think.

Mr. Becker went on to say that he sold honey in Springfield at a good many stores, and he never had to ask them how much they want. They ask, "How much can you let us have?" People who have used it before want it. He spoke also of candied honey; that it will sometimes spoil the sale of extracted honey.

Pres. Smith said that matter was discussed at San Antonio.

The advisability of using a label was mentioned and approved. The general opinion seemed to be that if the producer would place on the market a good article, plainly marked with his guarantee as to its purity, it would find a ready sale, and the demand for it would grow.

Mr. Hinderer spoke in favor of the label recommended by the National.

Relative Values of Extracted and Comb Honey.

The relative values of comb and extracted honey were advocated by various members. Mr. Black insisted that the human system needed something besides what is easily digested; and the comb was in no way objectionable. He also quoted eminent physicians as advising the use of milk and honey as better than medicines.

Mr. Pyle thought, while extracted honey should be used, and had advantages over the other, that the taste of comb honey was far superior.

Mr. Kildow thought the same—that take a section of honey and extract it and it was not the same thing, not nearly as good. He never could keep the same flavor outside the comb that it has in the comb.

Mr. Johnson said he thought all the five senses helped each other, and sympathized with each other. Take butter, for example: If it is not a good color it does not taste as well. The eye has the power to control the taste.

Mr. Black spoke of the keeping qualities of comb honey. He had found that some that had been standing for 4 years was as solid and perfect as when taken from the hive.

Mr. Becker mentioned one of his customers who used 60 to 75 pounds a year, who wanted both kinds.

Mr. Johnson said he sold some comb honey because some wanted it. If they would all take it he would rather sell all extracted honey, but we must produce what people want.

Pres. Smith—That is true, and beekeepers must learn that fact to be successful. If consumers want a certain kind, produce that variety.

Mr. Stone thought customers will want just what we educate them to, and he was tired producing comb honey. He thought it impracticable to use the combs again for comb honey. His customers just ask for honey, but few ask for comb honey. Some object to the extracted honey, saying it might not be pure honey, could be more easily adulterated; but after explaining to them how the honey is extracted they like it and do not care for the other again.

Mr. Kildow thought it made a difference where you live, near to or distant from a large market.

From the discussion of extracted honey the talk drifted to the subject of markets, and Mr. Dadant said the sale to private individuals was helping us today. They had been unable to sell through wholesale grocers. Grocers could handle the product that was labeled.

Mr. Black asked the proportion of comb to honey and Mr. Dadant answered that he could not say positively. From 25 to 40 per cent. The size of the cells has something to do with it. Drone-cells are larger in proportion. Mr. Dadant wished to say that this matter of eating comb depends largely upon taste.

The matter of advertising, whether the daily papers, the large Sunday editions or the bee-papers were the best medium. It was said that the bee-papers reached only men who were in the business and not customers for honey; but some of the members said they had found them to be good advertising mediums. Others had had success from advertising in the large daily newspapers.

At this stage in the discussion Mr. Holekamp was admitted to the hall and a short recess was taken to enable the members to meet and greet him. Then Pres. Smith, who had been speaking when Mr. Holekamp came in resumed his narration of how he secured the local trade, by sending honey to the grocer who would not buy it, but with whom he left it nevertheless, to be disposed of as he might find customers. Within 30 days he telephoned Mr. Smith to bring him more, and Mr. Smith has had no trouble since.

Mr. Holekamp said he thought the better market for extracted honey would have to be made. The demand for it must be created. One great trouble with extracted honey is that it granulates, and then when left in the dealer's hands is not marketable.

Mr. Black said you could not sell granulated honey.

Mr. Dadant said in regard to granulated honey, that there was a class of buyers who wanted honey in glass jars so it could be readily examined. He suggested putting the product up in attractive style with the producer's label and guarantee that it is pure honey, and this helps the grocer to sell it.

Mr. Baxter—I endorse every word Mr. Dadant says. Up our way people know what granulated honey is. Most of our customers like it. I have no trouble with it.

The fact that honey from different kinds of blossoms will prove different in this respect, was brought out. Honey from alfalfa is found to granulate rapidly, while that from sage does not, and that from goldenrod is slow to granulate. And it was said that honey from sweet clover had not granulated, and the next year there was basswood mixed with it. Another gentleman thought basswood honey was likely to granulate. Spanish-needle was also mentioned, and it was said the late gathered honey granulates less rapidly than the early.

Bees and Fruit.

Mr. Black brought up the question as to whether bees will eat fruit. Experiences were related and views exchanged, and the general opinion was that unlss the skin has already been broken, bees will not seek for honey on grapes, peaches, etc., but are often

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found on over-ripe fruit, left on the trees after it should have been gathered, and which offers them food from bursting skins and soft or rotten spots, and places that have been pecked by birds.

Contracting Foul Brood.

The first question announced by the Secretary was: "Will bees contract foul brood from surplus honey produced on colonies that have foul brood?"

Mr. Dadant—I would like to hear from our President in regard to that matter.

Pres. Smith said it was probable they would. Such conditions would only occur in seasons when the honey-flow was very free.

Mr. Dadant—Is it not true that the bee coming from the field sometimes gives its honey to some other bee to carry to the cell?

President—I do not believe the one stores the honey that gathers it.

Mr. Kildow—Do you believe it is possible for a colony that has foul brood ever to get rid of it?

Mr. Black—If my bees were where they could get honey from any source where there was a bit of foul brood I would not touch it.

Mr. Dadant said that a great deal had been learned about foul brood at the San Antonio meeting, and referred to the very interesting report of Dr. White. Specimens of foul brood were shown there and the bacillus described as in appearance like two tiny sticks held together by a more slender connection between them. The two little sticks end to end, united by the slighter joining. These bacilli develop rapidly, the slender joining breaking, and each end then becoming one by itself, and it developing and breaking in two, becoming two more, and this process is repeated every half hour. And they remain in honey for years, and when conditions are favorable, as soon as they find a proper medium, will begin to develop foul brood.

Mr. Kildow said he was very much interested in this matter of foul brood; that it was one of the things he came to this meeting to hear about. He has kept bees since 1880 and never had any experience with it until the past 3 years. He had bought some bees from a man who wanted to sell out, representing that his bees were all right, but when he got home Mr. Kildow found they had foul brood. He said Mr. Smith was up in 1905. Out of 40 or 50 colonies 31 were infected with the disease, and there it was right under their noses. It is almost useless for one man to clean it out of his own colonies when his neighbors allow it to increase in theirs.

Under these circumstances Mr. Kildow was very much interested in getting a foul brood law, and thinks we might get something like the law they have in Ohio. He would be in favor of making the bees pay what expense there might be attached to the enforcement of the law.

Mr. Johnson spoke at some length on the use of disinfectants, and gave some valuable information relative to experiments that had been tried. He had read a great deal on the subject, and had some correspondence with the Department at Washington. He said there were just two disinfectants—sulphur and formaldehyde—and told how the latter had been successfully used in disinfecting a house with the windows wide open; his theory being that to secure the best results the air should be freely admitted, the oxygen being necessary to the proper action of the chemical. He advocated the McEvoy theory.

The question as to whether the bacilli were in the beeswax was brought up.

Mr. Dadant thought the only safe way was to melt up all the combs and use up all the honey.

Mr. Johnson thought we should not be satisfied with opinions of others, but leave nothing undone to learn more on this subject. He said: "The inspector of today should be an experimenter all the time. You perhaps all know that I have always condemned the formaldehyde treatment for disinfecting when used in an air-tight compartment. I want to give a little more information on this subject. I find that Prof. Newman, of Kings College, London, as well as Prof. Koch, the greatest German bacteriologist, agree that formaldehyde is not a disinfectant of itself, but that the gas-formaldehyde must be united with oxygen in order to disinfect. The Department at Washington claims that the gas is a disinfectant of itself by its affinity to things nitrogenous. However, last summer there were 3 cases of smallpox in our vicinity in one family. The doctor disinfected that house in 5 days with formaldehyde with the windows and doors open a good share of the time, and the family ate and slept in the house during disinfecting. The children have gone to school all fall and people visited them and slept in the beds in which the patients were treated, no clothing nor bedding being burned. And no spread of the disease resulted. The disinfecting was complete; while about 10 miles north of us, where formaldehyde and sulphur were used in tight rooms for 24 hours, the disease spread in an alarming state. The cases in our neighborhood came from a visitor just out of quarantine where air-tight fumigation was used. So it seems that there is much to learn yet about formaldehyde as a disinfectant, especially among beekeepers. And I want to add with great emphasis that formic acid, and not formaldehyde, is the real disinfectant; and if an air-tight tank be used in disinfecting combs there will be no formic acid produced, consequently no thorough disinfecting. Practice the McEvoy plan until we know more about gas treatment, but let our experimenters not give up formaldehyde, as that will be the 'plan' when better known and properly used."

Mr. Hinderer said he had raised that question, and wanted to know if the practice of allowing bees from clean hives access to bees and the honey from hives infected with foul brood was dangerous.

Mr. Holekamp—I, too, am much interested in this discussion. We have suffered a great deal from this trouble. We formed a club for the purpose of assisting each other in dealing with it.

Mr. Holekamp also said that he had experimented with it, keeping a piece of foul brood a whole year in his office. He thought there was danger of its being carried, and said we could not expect to make much progress in getting rid of it as a long as all did not work together to that end. He said any foul brood law should compel inspection. The greatest danger he saw was in the shipment of honey. Comb honey will leak. Boxes will be thrown out in the back yard, and bees will clean them up. There should be uniform laws in all the States, and we should not rest until we get bills passed which will compel inspection. Chemicals may be good enough, but we do not want to be using them continually. He had found that an easy way to destroy bees and the comb. He related some of his experiences with foul brood, and repeated that it was of little use for one bee-keeper to clean up his hives while others were careless of theirs.

Other members said their experience had been similar, and thought the infection was carried by bees and in the honey.

Mr. Dadant—Some think they can cure it by simply changing queens. Some do not believe in this shaking business. Some want to scorch the hive. I advocate the use of the McEvoy treatment.

Mr. Baxter—Two years ago I had a colony I was sure had foul brood. I had never had it in my apiary, and I was thoroughly scared. I asked advice as to what to do. Upon that advice I changed queens and had no more trouble.

Mr. Johnson told of one instance where it seemed apparent that the foul brood was brought by the introduction of a new queen.

As it was getting late Pres. Smith suggested that it was time to adjourn.

Mr. Stone moved that the first thing to be done in the morning be to take up the consideration of a law for dealing with the foul-brood problem, which motion received a second and was carried.

The meeting then adjourned till 9 a. m. on Wednesday.

Second Day—Morning Session.

At 9:30 a. m. the convention met again.

Pres. Smith—The meeting will now come to order, and we will proceed with the order of business. Upon adjournment last evening it was decided that we should take up the question of foul-brood legislation this morning.

Foul Brood Legislation.

Mr. Dadant—It seems to me you, Mr. President, are the best informed man on this matter, having served the Association as Inspector, and we should have your ideas on the subject as to how best the desired laws for the extermination of foul brood may be secured.

Mr. Stone—I want to say that I have been on that same committee every time, and I made it a business to be at the State House twice a week.

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I have seen members of the legislature who have influence, and think they will get this Bill through for us. It has been recommended that when we get a Bill passed that will go on the statute books it will have become a law and will not have to be passed each session, as the Appropriation Bill has to be. They object to our appointing the Inspector, but we need not make a point of that. Let the Governor have the appointing power. If he does not appoint a man who is qualified for the work it will make so much opposition and trouble that he will be obliged to select for the position some one capable of filling it. I believe that we will get a Bill through just as we ask for it, and suggest that we dictate it just as we want it.

Pres. Smith—I will say that the Senate has always been favorable; we will need some influence in getting it through the House.

Mr. Johnson—I would like to ask just what was the opposition to the Bill presented to the last legislature?

Mr. Stone—There was no opposition. It just failed to pass. In the same way other Bills were killed, it was among those that had not yet been passed when the close of the session was reached, and was simply shut out.

Mr. Johnson—According to this, then, there was no opposition.

Pres. Smith—Mr. Stone and I called on the Governor, who referred us to the Attorney General. The Governor expressed neither approval or disapproval, but said it should be passed upon by the Attorney General, that whatever he recommended as to its requirements would be right. I was advised to drop that Bill. Get the appropriation and let the balance go.

Mr. Kildow—We all have read what our committee have done, and I think they have done all they possibly could. It seems to me we might get at it in another way. Ask for no appropriation, but ask for an Inspector and let the bees pay the expense.

Mr. Dadant—I have had some experience in these matters—have helped to get Bills through, and would like to suggest that while it is a good idea to tax the bees, I don't believe that it need be done. If you can get your Bills into the proper hands they will go through. There are certain of the members of the legislature who get things done. Put your Bills in the hands of the right men and they will go through.

Pres. Smith—You might write letters to members of the legislature every day and it would not amount to anything.

Mr. Baxter—I do not agree with you at all. I believe we can get what we ask, and should make our wants known to the members. You put it into the hands of Senators Berry and Dunlap, and such men as they are in the House. Another thing that we want is a law in regard to spraying, and we ought to have a similar law for the inspection of importations of queens into the State.

Mr. Johnson—It was mentioned yesterday, that we have this inspection of queens. And a spraying law ought to be had. Spraying trees in bloom should not be allowed.

Mr. Black—In the line of Mr. Baxter's remarks, there are wheels within wheels. The big thing, it seems to me, in this is to have our legislators understand the need of these things. It is well to be wise in the selection of the men who are to present the matter to the committee. We want to be sure to have this Bill pass through the hands of some one who will see that it doesn't conflict with other interests, and do not get it in such shape that it cannot be enforced. I think there should be a law prohibiting spraying in time of bloom. Though from experiences personally known to me, it has been proven that a limited amount of spraying in time of bloom may be beneficial, and result in producing better fruit.

Mr. Johnson—It has been said that writing letters will not do much good. In that regard I would refer to the Ladies' Home Journal which asked its readers to write letters to help create public sentiment.

Mr. Holekamp— I have had some experience in the work of getting Bills through, and will say that I had 3,000 bee-keepers write to members, and then I saw every member of the Senate and nine-tenths of the members of the House, and in many instances they would say to me, "Oh yes, I have had letters from home." I would also suggest that your Bill be so drawn as to provide for the extermination also of black brood and other diseases. Those letters help, and call attention to the fact that there are such diseases.

Mr Stone quoted a member of the legislature as saying, "If you don't quit flooding me with letters I will see that your Bill don't go through;" but in such a manner that it was apparent the letters had done good work in securing his interest in the measure.

Mr. Dadant—I think as time is becoming limited it would be well for the President to appoint a committee to draft a bill to be presented to our legislature, and that the members of the Association be asked to write letters to members of the legislature in the interest of the same. I would suggest that the three things be included—appropriation, foul brood and spraying.

Mr. Dadant made a motion to that effect which was seconded.

Mr. Kildow—Is it left for this committee to do as they see fit, or will you instruct the committee as to their course of action?

Mr. Becker—I am not in favor of introducing three Bills. We are getting

President J. Q. Smith.

1st Vice-President J. E. Johnson.

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too many bills. It will be like it was two years ago. It was hard to get our Bill through for an appropriation of $1,000, and too many Bills will defeat us in our efforts, and result in our getting nothing. I think we would better let the spraying matter alone, and get the Foul Brood Bill through.

Mr. Dadant—I would like to insist on giving the committee full scope. Let them use their judgment in drafting the Bill. Do not tell them to get up this or that kind of Bill. We want a Bill that will make sure destruction of foul brood. As to passing three Bills—let them do it if they can. I do not think that we should limit the committee. If the legislature does not pass all the Bills—if they will not enact at one session all that we want, we will go after them next year.

The motion received a second and was carried.

The result was as follows: President, J. Q. Smith; Secretary, Jas. A. Stone; and Treasurer, Charles Becker. First Vice-President, J. E. Johnson of Williamsfield; 2nd Vice-President, S. N. Black, of Clayton; 3rd Vice-President, E. J. Baxter, of Nauvoo; 4th Vice-President, A. L. Kildow, of Putman; 5th Vice-President, W. H. Hyde, of Canton.

Pres. Smith:—The appointment of foul brood Inspector is next on your list of business coming before you.

Mr. Stone—I move that our present Inspector, Mr. J. Q. Smith, who has served so acceptably, be appointed for the coming year.

The motion having received a second the question was put by Mr. Johnson, the newly elected 1st Vice-President, and unanimously decided in the affirmative.

A very sensible and interesting paper was read by Mr. Johnson on:

IN THE POOR YEARS PREPARE FOR THE GOOD YEARS THAT ARE SURE TO FOLLOW

As we come together to discuss things of interest to bee-keepers at this convention, we come not as bee-keepers having just reaped a bountiful harvest, but we come, at least most of us, having cause for discouragement, as in most parts of Illinois there is this year almost a honey-famine. As bee-keepers, we usually get enthusiastic when we are in the midst of a prosperous year, and when in the midst of a good honey-harvest, we at once begin to plan to increase the size of our apiary, and usually we increase our number of colonies only to find that when we are best ready for a big honey-flow we don't get it. Then the poor years will discourage us so that we neglect our bees, and thus lose many colonies, so that when a good honey-year comes we are not prepared to meet it to the best advantage.

You have perhaps noticed that unless we exert ourselves to follow our best judgment, we naturally fall into a habit of doing a good deal as others do. The man who merely follows the crowd will never succeed as well as he who does what, after careful consideration, he concludes to be the right thing to do, whether others do it or not.

Let us review our present situation. We have had an exceedingly poor honey year, and last year was not extra good. The blue-grass in the pastures is in many places killed out by dry weather, and, should we have a wet year, which we usually do after a dry one, the white clover will spring up unhindered; not only so, but many people have thinned out their stock so that it will not be pastured so closely as usual next year, and it is only when the white clover gets ahead of the cattle that it can yield its best. Not only so, but during a wet year there will be much more abundance of heartsease, Spanish-needle and other fall flowers; so, taking all things into consideration, I think we have a fair prospect for a moderately good year in 1907. So let us not forget that in the time of a poor honey-year is the time to keep up courage and prepare for the good years that must certainly follow.

Let me cite another feature. I have quite a few neighbors that keep from 4 or 5 to 15 or 20 colonies of bees. Three years ago they would stop me in the road to talk bees, but now those who have any bees left don't give them a thought, because they don't bring in an income. I talked with a man the other day who had had from 20 to

Secretary Jas. A. Stone.

Treasurer Chas. Becker.

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25 colonies of bees until this year. He said he did not know whether they had enough honey to winter or not, as he had not looked through them since last spring, but he believed there were only 8 or 10 colonies left now, as several died in the summer.

Another man lost all of his bees last winter and spring, and so on. So we have that advantage. These men with their small apiaries won't be in the business when the next good year comes along, to glut the country store market with 10-cent honey in 2 or 3 year old section-boxes. None of us know what the future may bring forth, but one thing we do know, and that is, in the past the good seasons have always come after the poor ones, and it is reasonable to expect that history will repeat itself in this respect. And if we are faithful during our trials and hardships in bee-keeping, we may expect to reap the profits when the good times come.

The man who has a good-sized apiary, and has his bees in shape to meet the next good honey-year, is going to make some money at bee-keeping. So let us then carefully prepare our bees for winter, and look after them well in the spring, so that we may be prepared for whatever may come. Anything that is worth doing is worth doing well. Let us apply this rule to bee-keeping at all times, and if there be such a thing as success, we will be sure to make its acquaintance.

In most parts of Illinois, 50 to 60 colonies are enough in one apiary in average years. Let us be careful that the good years do not catch us with 15 or 20 colonies and the poor ones with 100. If we have 50 colonies in a very good year, they can be increased easily; and if we have 50 colonies in a fairly poor year, we will get more honey than if we had a hundred, as we will have many thousand less consumers of honey. We should each study our locality, and aim to keep the number of bees our locality will support well in an average season.

J. E. JOHNSON.

The foregoing paper was followed by a discussion which was participated in by Mr. Black, who said that bee-keepers were becoming fewer in number, year by year, but those engaged in the business were carrying it on more intelligently; and by Mr. Souer, who asked of the President the advisability of putting a cushion on colonies where two were united. This question brought out interesting remarks from Messrs. Baxter, Dadant and Holekamp, and, like other practical discussion of living questions, a valuable exchange of ideas resulted.

As it was nearing the noon hour when some of the members had to leave the city, Mr. Dadant and Mr. Black asked to be excused, and after a little more general discussion an adjournment was taken to 1:30 p. m.

At 1:30 o'clock the meeting was called to order with Vice-President Johnson in the chair.

Mr. Kildow moved that each affiliated bee-keepers' association in the State be allowed to send a delegate to the State convention and that their railroad fare be paid by the State Association. Carried.

After an hour or two spent in friendly discussions, the meeting ended its session in a *sine die* adjournment.

JAS. A. STONE, Sec.

Conducted by EMMA M. WILSON, Marengo, Ill.

Another Misrepresentation to Be Corrected

On page 94, reference is made to a statement contained in a work of Dr. Kellogg that was being widely circulated, said statement being to the effect that foundation of paraffin was given to the bees, and also glucose, and "Thus we have honey which is wholly artificial, with the exception of a portion of the wax." Thanks are due to our correspondent who called attention to the matter, since it has brought from Dr. Kellogg the following frank and candid letter which needs no further comment:

BATTLE CREEK, MICH., Feb. 10, 1907.

EDITOR AMERICAN BEE JOURNAL:—My attention has been called to an article from one of your correspondents referring to a statement in the "Home Hand-Book," with reference to honey. The paragraphs referred to were written 30 years ago, and at that time I had every reason to believe that the statements made were true. I am glad my attention has been called to the matter, and I will see that the text is corrected if not in harmony with the facts as they exist at the present time.

I believe honey is an excellent food, and is very much superior to cane-sugar. The latter is often a cause of disease.

Very truly yours,

J. H. KELLOGG, M. D.

Feather Duster for Brushing Bees

I have noticed several inquiries in the American Bee Journal from subscribers in regard to brushing bees from combs. I have used a feather duster for years, and have found it to be very satisfactory.

Feather dusters are made of split feathers, mostly used from turkeys, and are therefore very soft, and will not injure the bees or combs in the least, even though you use it with force. On the other hand, dusters made of horsehair are very dense, and when brushed over the bees it doubles them up and rolls them over in a miserable way.

MRS. CAROLINE ZELLER.

Spring Bay, Ill.

There is a difference of opinion in regard to feather brushes. Some think that feathers irritate the bees, somewhat as fuzzy woolen cloth does, while others like them.

We like the Coggshall brush, also the long grass brush. But, better still, a brush made of something green, as goldenrod, aster, sweet clover, asparagus, etc., if it were not for the trouble of making a new brush each day.

Resolution in Behalf of the Baroness Burdett-Coutts

In the report of a meeting of the Council of the British Bee-Keepers' Asscciation, given in the British Bee Journal, occurs the following:

On taking the chair, Mr. Cowan alluded in feeling terms to the loss sustained by the death of the President, the Baroness Burdett-Coutts, who had occupied that position, to the great advantage of the bee-keeping industry, for nearly 30 years.....In conclusion, Mr. Cowan moved the following resolution:

"That the Council of this Association desire to place on record their sense of the irreparable loss they have sustained in the death of their revered President, to whose continual practical interest and generous liberality they have been indebted for so many years past; and to convey the same to Mr. W. Burdett-Coutts, together with their sympathy with him in his loss."

The resolution was seconded by Mr. Weston and adopted.

Cellar-Wintering of Bees at Low Temperature

On page 115, "Wisconsin," whose thermometers varied 10 degrees from highest to lowest, was told in the Question-Box, "The idea is to find at what temperature your bees are most quiet by *your* thermometer, in *your* cellar, no matter what the authorities say." Miss May G. Devine takes heart from this, as she had fears previously that her bees had not been behaving in an entirely orthodox manner in consideration of the temperature shown in her cellar by the thermometer. She says:

My bees have always wintered with what appeared to be absolute success, but this is the first intimation I ever had that they were conducting themselves with perfect propriety in so doing, for so far as I can judge by thermometers that vary something as "Wisconsin's" did, the mercury averages about 37 degrees—quite likely lower—certainly no higher.

I keep about 50 colonies, and you could stay in the cellar an hour almost any time from the middle of November till nearly time to take them out, and I doubt if you could say there was a bee there. The cellar where they are is large (under our living rooms), a solid rock bottom, dark as Egypt, no windows, and both doors always closed. The rock on the bottom slants a good deal, and much of the year a

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stream of water trickles over it—after a heavy storm, or, in spring, quantities of it.

I knew the bees were always quiet—practically no bees ever crawling around the entrances, still when without exception every "*authority*" said "not *below* 42 degrees," I had a sort of uncomfortable feeling that something should be done.

(Miss) May G. Devine.

Sandy Hill, N. Y., Feb. 13.

This is exceedingly interesting. It is perhaps the lowest temperature ever reported in the cellar with such good results. The question arises as to whether the authorities are to be ignored as of no account. By no means. It is useful to have something to go upon in trying to settle the right temperature for each cellar; and it helps to know that for the average thermometer in the average cellar 45 degrees is about the right figure, just as it is useful to know that so many yards make a dress-pattern for the average woman; but that does not hinder any one from getting more or less than an average dress-pattern if occasion demands.

In the present case, there is a possibility that even with varying thermometers no thermometer was used that registered sufficiently high. Most likely, however, the peculiar conditions of the cellar have something to do in the case; and Miss Devine is to be congratulated that her bees behave to her heart's fondest wish, even if she did not succeed in getting her thermometer to "speak the piece" she thought it ought to speak.

"Freyhoff" Honey-Cakes

In Praktischer Wegweiser, Mrs. Emma Freyhoff (is she perhaps the wife of Editor Freyhoff?) gives the following recipe for a kind of honey-cakes that she esteems highly:

One and ½ pounds of honey of good quality and 1 pound of good butter are melted together, then into the blood-warm mass gradually add, stirring vigorously: 1 pound sugar, ¼ pound beaten almonds, some grated lemon-rind, 3 heaping teaspoons soda—in 10 cents worth rosewater—and 4 pounds of wheat flour. Knead thoroughly with the hands, and roll out the dough an inch or more thick. Bake in cakes with moderate heat.

Horseradish and Honey for Hoarseness

This is one of the quickest-acting remedies known for hoarseness. Let the patient chew a small piece of the root, a piece about the size of the little finger. For a severer case, make a syrup of grated horseradish and honey, or horseradish and sugar and water, and give one teaspoonful every 1 or 2 hours as a dose.—Selected.

It is said that the celebrated Dr. Asada, attending physician to the imperial family of Japan, uses the above.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1 75. Address all orders to this office.

By W. A. Pryal, Alden Station, Oakland, Calif.

The "Harvest" of the Bee-Fathers

The great bee-keepers who placed the occupation of tending bees for profit in the high position it now occupies, have almost all passed away. Verily, when we cast our mind's eye over the field of bee-culture, it first appears to us that all the eminent workers of a few decades ago have been translated to the great "Bee-Pasture" beyond this life. Still, we have a few of these workers with us, but we hear but little of them. They have nearly gathered their last crop of honey and have gone into "winter quarters," as it were.

These reflections came to me as I was reading, a few minutes ago, "The Bee-Keeper's Directory," a pretentious volume issued from the press of San Francisco, in 1861, by J. S. Harbison.

Father Harbison Still With Us.

J. S. Harbison! This was a name to conjure with 30 years ago; how seldom

J. S. Harbison.

do we hear of it to-day! Harbison, the great! Harbison, the man who owned more bees than any other one man, and whose apiaries were scattered upon a hundred hills in Southern California! Yes, Harbison, the man who sent the first car-load of honey to the London market, and who previously had the honor of sending the first train-load of California sage-honey East. This was the man who did great things in California. And, strange to say, he never published anything to speak of about bees since the appearance of his "Directory," 46 years ago—a long time, indeed!

Harbison was the father of California bee-culture, though he was not the first to import bees to this State; but in this he was only antedated by a few years by other persons. He, however, was the first to make big money out of bees in the Golden West.

The First Honey-Section.

J. S. Harbison is given the credit as the inventor of the surplus honey-section. It was a good, fat section—not small and skimpy, like the section now so common in the honey markets. If the pioneer inventor had made all-in-one-piece sections in the early days, and used separators as now in use, there is no doubt, in my mind, that the interests of bee-keeping would have been better off. A larger section should always have been on the market. The fault has been with the factories that turn them out, as the fault of queer styles in men's clothes lay with a tailor somewhere or another in one of the big cities of the world. Such is fashion; fashion, however, often does ridiculous things! Harbison says he invented the section on Christmas day, 1857—a splendid gift to bestow upon the bee-world and mankind; it was a great gift given on a great day. Just think, it will be a half century next Christmas day since the honey-section was invented.

High Prices for Honey

I have noticed, as I have passed many stores in our cities lately, that comb honey is marked higher than I ever knew it to be before in Central California. I saw it quoted at 20 cents per pound section. It has been usually a dime, though more often 15 cents, or 2 sections for 25 cents. But that price is nothing to brag about, though many a bee-keeper would like to get it for his entire crop. Twenty cents per pound is nothing to get for honey, compared with the price G. D. Heyford, of Nevada county (this State), received for honey in 1857, as reported in the Pacific Rural Press of November, 1889. Fifty years ago Mr. Heyford says that he and another person were bringing 10 colonies of bees from Maine to California. The bees were lost in a car-wreck on the isthmus, but the honey carried along to feed the bees arrived at Marysville all right, where it sold at $5 per pound; and was not considered much of a luxury even at that price. The price obtained was sufficient to

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pay the carfare ($470) for each of the importers. Surely, if one had much of such sweets, and could realize as well on all of it as did those early bee-enthusiasts, he would have something better than a gold-mine. The price mentioned was better, however, than that obtained in San Jose for the first crop of honey produced in the State, so far as known. One pioneer bee-keeper had 400 pounds of box honey in 1856, which was sold for from $1.50 to $2.00 per pound. That price was not bad, either; (in lieu of $5.00 I think I would be satisfied with the $1.50 figure.)

The Coming Honey Season

That is a hard thing to speak of, though nearly all of us drop into talking of the weather and the season quite often. 'Tis a habit we all sort of fall into—perhaps we learn to do so at the barber shop—a bad place to learn anything much, to tell the truth. But, to the season:

Well, so far it is all that any bee-keeper could desire. Plenty of rain, and more. February opened up in fine style; vegetation boomed ahead as if it were in a hot-house with bottom-heat. In the hives brood-rearing spread out fairly rapidly; honey and pollen came in so plentifully that a surplus of it was stored. By the middle of March some swarms were expected in the central portion of the State.

What will the crop be? I don't know; better ask the Man in the Moon. No one knows what a crop will be several months ahead in California, any more than he can tell elsewhere. One thing, everything is very favorable for an abundant harvest. A succession of cool nights may retard nectar-secretion in the flowers, so that the honey output will be small. We can not bank upon it, so we shall wait and see.

Bee-Keeping at Berkeley

I learn that Ralph Benton is giving a series of lectures at the University of California upon bee-keeping. The lectures are given Saturday afternoons at Berkeley, and are free to all who may wish to attend. It has not yet been my privilege to meet this gifted young gentleman, withal he does not live a hundred miles from where I am writing this. (I wonder if he can hear the click of my typewriter, as I run off these lines.) I am glad the Regents of the University have secured some one that knows something practical about bees. Heretofore the entomological part of the bee was well considered by the department, but never was a capable person in charge of the practical side of bee-culture. As Mr. Benton grows older, I have not the least doubt but the bee-world will hear something remarkable from him. Before I close this paragraph I may remark that it was hoped for a long time that the California University would call Prof. A. J. Cook to the Chair of Entomology. I trust it will do so. Then what a strong showing bee-cultural this already prominent seat of learning will make!

A Characteristic Southern Californian Scene—East San Bernardino Valley.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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Conducted by Louis H. Scholl, New Braunsfels, Tex.

Texas BloomGalore and Swarming in March

While the bees are still in the cellar "up North," their Southern "cousins" have a great variety of bloom to keep them busy. There are over 3 dozen bloomers for our bees during this month of March, of which I have specimens in my collections, and there are a few that have been added that occur in other parts of the State.

Some of these plants are not of great importance, but every little bit helps during the early spring months when brood-rearing is going on rapidly and the stores are consumed. Especially does the bee-keeper value the coming of these bloomers when he is aware that his colonies are running short, and, unless they do come, feeding must be resorted to. New pollen, and lots of it, is also a valuable thing during this season of heavy breeding, especially when the main honey-flow comes early and the bees must be "hurried" to populous colonies in "short order." For this reason many of the plants that yield only pollen are of considerable value; even though some of these yield small quantities of it, the fact that bees visit them is sufficient, or the bees would be "out" just so much.

Of course, those plants which yield both honey and pollen are of most importance, for nothing, in my mind, stimulates early brood-rearing more than *both new honey and new pollen.*

The following list is given, as the blooming periods of the plants follow each other, the time of each blooming period being given for each plant:

Greggia camporum, Gray, is a low-growing plant, bearing small white flowers in umbel-like clusters, in mountains, waste fields and fertile prairies of West Texas. Honey and pollen early, but not abundant, in the latter part of February and well into March.

Quercus.—This includes all of the Oak family; yielding pollen and honey from the "oak balls" made by a "gall insect." There are a great many species of oaks, but the most common ones are here given. Of these, *Quercus virginiana*, Mill—the Live oak is the earliest here, and occurs abundantly in the forests from the Gulf States through southern and west Texas to the mountains of New Mexico. *Q. minor* (Marsh), Sarg., or the common Post oak, is very plentiful on sandy or sterile soils, extending from the Atlantic States to central and southwest Texas. *Q. nigra*, L., Black Jack or Barren oak, has about the same range and habitat. *Q. palustris*, Du Roi, Swamp, Spanish or Pin oak, is found on low ground extending in Texas to the valley of the Colorado River west; *Q. rubra*, L. (Red oak), and *Q. aquatica* Walt. (Water oak), with about the same range and habitat. Of these, the four last named are not so abundant, but all aid in early brood-rearing.

Melia azadarach, L., our umbrella shade trees, naturalized and much planted throughout central and southwest Texas, furnish an abundance of bloom, and help early brood-rearing during the month.

Rubus trevialis, Mx., or Dew-Berry, southern blackberry, common in eastern, southern and western Texas, upon which bees work busily for honey and pollen.

Acacia farneciana, Willd. (Huisache)—a tree much like the mesquite, but having smaller leaflets, dark green; the branches and limbs bearing long thorns. The flowers are globular, about ½ inch in diameter, yellow, and very fragrant. Honey and bright yellow pollen is obtained from this source. Its distribution extends from San Antonio to the Gulf Coast and lower Rio Grande, where it is very plentiful in the richer soils.

Salix nigra, Marsh—Black willow, and several other species, are well known for their value as stimulators in the spring, both for honey and an abundance of pollen. March and into April.

Marubrium vulgare, L., common hoarhound, often begins to bloom in March, and continues until late in summer, thus aiding in early brood-rearing, and later furnishing surplus honey where plentiful. It is found pretty well distributed over the South in fertile places, fence-corners and pens. The honey is amber in color, and sometimes of very nauseating sweetness, while it is claimed to be bitter by some persons.

Vitis monticola, Benkley—a common mountain grape, besides others of the grapes; they yield pollen to some extent.

Juglans nigra, L. (Black walnut), extending from the East to the valley of the San Antonio River, is not very abundant, but yields some honey and pollen.

Hicoria pecan (Marsh), Britton, is our Pecan Nut tree, and extends from the Gulf States to the streams of central and southwestern Texas. Much pollen is obtained, and I believe some honey, bees fairly roaring in the blooming trees, and colonies are much stimulated in brood-rearing.

Hicoria atba (L.) Britton, and other species, are hickory-nut trees, abundant in the sandy land sections of the southern part of the State, and yield some honey and pollen.

Asclepias, or Milkweed, yields some honey, and the sticky and cleft pollen clings to the bees' feet, often in such masses as to cripple them, to cause death to the tortured insect. The milkweeds are widely distributed.

Space this week does not permit me to give all of our March bloomers, so half of them are given which generally bloom by the middle of the month. The rest will be given later.

A trip to some of my yards a few days ago showed that colonies were getting along fine, new honey dripping from the combs when handled, and some colonies so strong that they were preparing to swarm soon. Supers were given to provide more room, and the entrances of the hives were raised to ¾ inches deep for better ventilation, so as to retard swarming until further manipulations to prevent it can be administered.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3¾ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

The Chicago-Northwestern Convention Photograph was taken Dec. 6, 1906, which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

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Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Buying Bees or Making Increase

I am 21 years old, and I own 4 colonies of bees. I am as interested in the bee-business as I think any person can be. I have read all the bee-literature I could for 3 years. At present I am taking 4 bee-papers. Would you advise me to buy more bees, or to wait until those I have increase? WISCONSIN.

ANSWER.—That depends. If you want to increase to a considerably larger number, and have an opportunity of buying a few colonies at a bargain, as sometimes happens at an auction, or when some one wants to get rid of his bees, it will be well for you to buy. But if you can't buy for less than $5.00 a colony, then it will be more profitable for you to run your bees for increase than for honey. Only don't make the mistake of having a number of weak colonies on hand in the fall. It would, no doubt, be an easy thing to increase those 4 colonies to 20 or more by fall, and then lose most of them in the winter because too weak, but in the long run you will get on faster to move a little more slowly and surely. Of course, something depends upon the season. In a very poor season it may not be safe to increase at all, unless you do a good deal of feeding. But if you reach next fall with 10 or 12 strong colonies, another good season ought to bring you up to 40 or so.

Queerly Acting Colony Perhaps Queenless

I have one colony the bees of which seem to be making a noise at the entrance and running up and down the front of the hive, and all over the alighting-board. They will fly off just a little and then back. In fact, they act queerly—as if they had been disturbed or dequeened. I have 16 colonies, all on the summer stands, and all are quiet except this one. What is the matter? KENTUCKY.

ANSWER.—It is very much to be feared that the colony is queenless. By this time there ought to be in your locality brood in any colony that has a good queen. If you find no brood present it is pretty certain they have no laying queen. I don't know just how early matters are in your part of Kentucky, but another possibility is that a young queen has been reared, and that the bees were excited, as you found them, when she took her wedding-flight. Give the colony a comb containing young brood, and if they start queen-cells it is fair evidence that no sort of queen is present, though, sometimes, bees start cells when a virgin is present.

Putting Full Supers on the Hive

On page 121, is a picture of L. A. Smith and a colony of Carniolans. How is he going to put those supers back without smashing a lot of bees? CALIFORNIA.

ANSWER.—Not often will enough bees be in the way to make much trouble. When a few are on the upper edges of the sides and ends of the brood-chamber, suggest to them that they better get off by means of a little smoke. Don't blow *down* upon them, but blow upwards against the outside of the brood-chamber, and enough smoke will come up at the top. But when the bees are piled over the top as they appear to be in the picture to which you refer, a quicker way is to use no smoke, or, at most, only a little on the edges, and set one end of the super on the brood-chamber, keeping the other end raised 6 inches or so. While letting the first end down, don't do it quickly or you'll mash a lot of bees; but with an up and down and also a sort of sliding motion, until you can get at least one corner to rest without any bees under it, then you will gradually let down the whole super, playing it up and down, gradually letting it down a little and a little lower until clear down, and you need not kill a bee although they may be clustering an inch thick all over the hive.

Growing Basswood Trees

1. I have just ordered some basswood trees. How close can I plant them together?
2. Will they grow well in this climate; that is, hot and dry in the summer-time, subject to strong winds in winter, no snow, and temperature never falling very low?
3. How long will it be before they yield nectar to amount to anything?
4. How much water do they need when growing? CALIFORNIA.

ANSWERS.—1. When they get to be large trees, 20 to 25 feet is close enough. It is not a bad plan to plant only half as far apart as you want the trees finally; then when half grown, to cut out three-fourths of them. The danger is that you will be too tender-hearted to cut them at the right time; but you will not have so much nectar from large trees that are too crowded. You will easily see, however, that up to the time they get half their full growth there would be a gain in nectar by having the larger number of trees.

2. I don't know. One would think that conditions are all right; yet I don't remember that any one has reported planting basswoods on a large scale in California.

3. Not before 8 or 10 years in this locality; but things move faster in your pushing climate.

4. At a guess, I should say the same amount as crops in general, particularly other trees.

Requeening from a "Star" Colony

I have 8 colonies of bees, one of which gives me more honey than all the rest together. I want to requeen all colonies from that one "star" colony. How am I to do it and still get returns from all? My surplus never begins until Aug. 1. NEW JERSEY.

ANSWERS.—Build up the colony with the best queen by giving it brood and bees from other colonies, making it so strong that it will swarm before any other colony. Call this colony No. 1, and let No. 2 be the strongest of the other colonies, No. 3 the next strongest, and so on down to No. 8, the weakest. When No. 1 swarms, put the swarm on the stand of No. 1, put No. 1 on the stand of No. 2, and put No. 2 on a new stand. In about 8 days No. 1 will swarm again with a virgin. Put the swarm in place of No. 1, put No. 1 in place of No. 3, and put No. 3 on a new stand. A day or two later, when No. 1 swarms again, proceed as before, and let No. 1 take the place of No. 4, and then in succession of Nos. 5, 6, 7, and 8, provided No. 1 is complaisant enough to swarm so many times, which would be nothing strange. You will now have 8 colonies of the same stock, 7 colonies with the other old queens, and you ought to have as much honey as if each colony had swarmed once.

Perhaps you would rather proceed another way. A little before there is danger of swarming, put in the central part of No. 1 a frame with a starter of foundation not much more than an inch deep. A week or 10 days later take out this frame (it wouldn't be a bad plan to put in its place another frame of the same kind in case it should be needed later), and trim off the edge of the comb that contains only eggs, but not trimming away any of the young larvæ. Put this frame in the middle of No. 2, at the same time removing the queen of No. 2. Ten days later—be sure not to wait longer than that—you ought to have a lot of fine queen-cells. Put each one into a cage, having the cage provisioned so the bees can eat into it, the same as in introducing a queen, remove the old queens that you want to replace, and at the same time put in the caged queen-cells. If all goes well, the bees ought to do the rest. This plan will change the queens without any increase, and there ought to be no swarming with young queens so reared. Of course, you can combine the two methods in a variety of ways.

Another way is to make nuclei and rear young queens, introducing them afterwards.

Pollen from Red Cedar

My bees gathered pollen from red cedar today (March 4), and as I have failed to find cedars referred to as a source of honey or pollen, it struck me as something rather unusual. Is that a common occurrence?
ARKANSAS.

ANSWER.—I don't know; but it is quite likely that it is nothing unusual, even though no mention may have been made of it. It is only the plants from which unusual quantities of either honey or pollen are obtained that are generally mentioned as honey-plants.

Do Bees Get Disease from Comb Foundation?—Superseding Queens

1. Is there any danger of introducing foul brood, or any other disease, into my colonies by using freely of comb foundation?
2. Is it not a fact that many combs affected with foul brood and other diseases are rendered into wax, and that the foundation on sale by all dealers is contaminated more or less with this same wax?
3. In Doolittle's "Queen-Rearing," page 111, he says: "To supersede a queen, hatch a young queen in an upper story over a zinc excluder, and after she is hatched remove the excluder and your old queen is superseded." Will the plan work *invariably?*
4. How soon after the young queen hatches, as mentioned in No. 3, shall I remove the excluder to make success certain? INDIANA.

ANSWERS.—1. I don't believe there is any danger.

2. Undoubtedly much wax is made from foul-broody combs, and just as undoubtedly much of it must fall into the hands of the manufacturers of comb foundation. But it does not necessarily follow that the foundation is contaminated so as to make it in the least dangerous. I have bought hundreds of

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pounds of foundation, and there has never been any foul brood among my bees. Hundreds of others have done the same. The continued high temperature to which the wax is subjected when being made into foundation, destroys even the spores in foundation. I think that some hold, too, that even if a spore were not destroyed by the heat it could not germinate after receiving an impervious coating of wax.

3. No; and I do not think Mr. Doolittle claims invariable success. Remember that in the natural course of events *every* queen is superseded by the bees, and that such superseding usually occurs somewhere in the neighborhood of the close of the harvest. Now when any colony has a queen that it is about to supersede, if you will get in a little ahead by having over the excluder a virgin before one has been reared below, you may be practically certain of success. If you do the same thing early in the season, especially where a vigorous queen is doing duty below, you may expect failure.

4. From what has been said, you will see that the time of taking away the excluder has little to do with success. If you want to take advantage of the plan, about the close of the harvest, give a cell from the best stock to each queen you want superseded, and take away the excluder immediately after the virgin emerges, or a day later, or 2 or 3 days later, and where you succeed you will have better stock than if you had left the bees to themselves; and where you fail you will only have lost a queen-cell. But you stand a chance of many successes.

Best Bees for Comb Honey—Full Sheets of Foundation

1. What kind of bees do you consider the best for the production of comb honey?

2. Is it better to have full sheets of foundation in the brood-frames? Also in sections? If so, why? MAINE.

ANSWERS.—1. In general, the best workers, that is, those which will store the most honey. Yet there are two things to be taken into account that might make one prefer bees that are not the greatest storers. Suppose we have a colony that stores a certain amount, and another that stores 5 percent more, but the latter daubs its sections very badly with glue, while the former leaves them practically clean. In that case we would be likely to prefer the poorer gatherers. Again, there is a great difference in the whiteness of sealing. Some colonies seal snowy white, while others make sections look watery or greasy. The latter are not satisfactory for sections, no matter how good storers. The Punic, or Tunisians, are the worst I ever knew for both glueing and watery sealing, and it is possible that the two go together generally. Black bees are said to seal whiter than Italians, but I suspect that Italians are not alike in this respect, for my Italians and hybrids have made very white sections. On the whole, you probably can do no better than to get a good strain of Italians for section work. Possibly Caucasians may prove to be desirable, but at present reports about them are too contradictory to recommend them unreservedly.

It may not be out of place to suggest that you can do well to watch which colonies do best at giving a big lot of very white sections, and breed from such colonies.

2. Yes; because you will then be sure of having combs entirely straight, and no drone-cells.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

Reports and Experiences

Gathering Clover Pollen—Fission

On page 152, Mr. Hasty says, "Live ones (meaning bees) seldom have pollen when working on clover." It is all very different here. I believe at least ¾ of all the pollen gathered is from clover. In my locality but very little buckwheat is grown. Frequently I have found the combs over-stocked with late clover pollen—even the extracting combs sometimes contain sickening quantities of clover pollen. Clearly a case of conditions and locality.

REPRODUCTION BY FISSION.

When Mr. Hasty gets his endowed institute in successful operation to study Fission with a hundred microscopes, till the secret is discovered why the cells of creatures that reproduce by Fission do not grow old, I guess it will be found out that they do grow old, and that new ones are constantly forming. Meekly and lowly, I beg to suggest that it may not be profitable or wise to discuss the birth of Christ in the fashion found on page 153. S. T. PETTIT.

Aylmer, Ont., Feb. 25.

Very Early Season

Our season is very early. Bees are at the swarming point. First eggs were found in queen-cells on Feb. 27. Prospects for honey are fine. J. W. K. SHAW & Co.

Loreauville, La., March 11.

A Beginner's Success

I am a young man, who, by lucky chance, got a couple of colonies of bees 2 years or more ago. And having good luck last summer I increased to 4, had lots of honey for our own use, and sold some $12 worth of comb honey. I am in favor of the T-super, which I use with plain sections and fence-separators. WALTER M. ADEMA.

Berlin, Mich., Feb. 23.

Large Hives Are Best

On page 167, Dr. Bohrer, in an article under the heading, "Non-Swarming Hives to Prevent or Control Swarming," says that in 1864 he used a hive with 16 or 18 frames Langstroth size. From my experience with many sizes and styles of hives, the Jumbo 10-frame comes nearer filling the bill than an odd-size hive-body will. By all means let us have uniform sizes of hives, except as to depth; that is a matter of choice. If one desires to produce extracted honey, supers 6⅜ inches deep, with frames 6 inches deep, will give better results than deeper ones. The combs will not break down in hot weather, and are sealed over, and you can give surplus room as it is needed. THOS. M. CHERRY.

Quincy, Ill., March 1.

Starting With Bees, Etc.

I started a year ago with 7 colonies in box-hives, and with the aid of "A B C of Bee-Culture" and reading bee-papers I increased them to 50 colonies, and took off about 500 pounds of nice section-honey. This year, with an extractor, I expect to make them do much better. The $1.00 queens I bought in the spring did not do well. I suppose it was too hot. But in August I got 2 dozen from a Louisiana breeder. They all did fine.

The last 3 winters we have had plenty of rain in Arizona. Spring is here now with all of its beauty. The bees are just as happy and busy as they can be. I do love to see them come in with their loads of pollen. The little birds are building their nests under the eves of the porches. I want to kill them, but my wife says, "No, no; you must not kill them; they are just as happy as your bees;" and so they are, bringing sticks, straws, and strings. I am afraid they will eat my bees, but the good lady and the birds will have to have their way about the matter.

I make my own hives, and I believe every beginner, if he is not able to buy them, should make as many of his bee-fixtures as possible. I think every bee-paper should give instructions, simple and plain, how to make a good hive, with drawings and cuts of every part of it, so as to make it easily understood by any one; and keep these instructions continually in the bee-papers. It is the poor people who need help. The rich can and will get on all right. T. J. RIGGS.

Teviston, Ariz., Feb. 16.

[We imagine if the same instructions and drawings were kept in Mr. Riggs' bee-paper for a year or two, he would get pretty tired of seeing them. The better way would be for the beginner to get one hive all complete, nailed and painted, and then use it as a sample.—EDITOR.]

Feeding Bees in Winter

I have 6 colonies of bees, and they are doing nicely. I fed them all through the winter. In January I fed them on 15 days, and in February, 17 days. I fed them outdoors, taking 2 pounds of sugar and 2 pounds of water to make the syrup, and put it in old brood-combs, and then laid them on top of 3 one-gallon jars. It is great sport to watch them work. J. F. MCCLURE.

Gaylord, Kans., March 1.

Bees and Grapes

I have seen a good many men discussing the question of bees destroying grapes and fruit. I have often read of this but I think none of them are correct. I believe the cause of grapes cracking open is their ripening in a dry spell or a drouth. Last year they cracked open in this part of the country more than they have for years, and the bees worked on them so badly that it was a disagreeable job to cut them without getting stung on the fingers.

The grapes ripened in 2 or 3 weeks in dry weather, and when they did get ripe there came a heavy rain a week afterward; then the vines drew more moisture out of the ground, causing the ripe grapes to get more juicy and riper, and they began to crack.

The same is true of a tomato. If a tomato gets ripe in one week and is left on the vine until the next week, and there comes a rain, it will crack just the same as do the grapes.

Milan, Ill., Feb. 28. JOSIAH JOHNSTON.

Increasing 1 Colony to 7, and Getting a Crop

How I happened to be reduced to one colony might be more interesting, but a hundred or more empty combs and stacks of empty hives and fixtures would be a strange contrast with the reports given in the bee-papers for the past poor season. So I will start with my one Italian queen of the red clover strain, in a 10-frame hive packed in a chaff case of large dimensions. When I found myself reduced to this in the spring of 1906, I held a "bee-convention" all by myself, and resolved to devote the remainder of my life to the science and art of bee-keeping; that I would turn over a new leaf and pay more attention to queen-rearing; that I would attend to the wants of the bees, no matter what else was neglected.

I commenced the season by getting one more queen. I gave 2 frames of brood and bees, and one of empty comb, to the new queen, and some D. section-cases to the old one. About as soon as they got well started

American Bee Journal

in the sections, a large swarm came out and clustered in the old apple-tree, under whose branches I had held my "bee-convention." Then I took the hive of brood and queen-cells and made 3 of it, putting the extra cells in West queen-cell protectors.

The old queen with the swarm filled the empty combs and did some work in the sections and swarmed again. I hived them again on more empty comb and sections, and the combs of brood and bees I divided again, making 7 in all. These small colonies were built up by feeding, and given empty comb, one frame at a time as needed. When the golden-rod began to bloom all were built up strong, and all filled up for winter. The crop of honey was not over 25 pounds, but was all engaged at 25 cents per pound before it came off the hives. Three or 4 dollars worth of sugar was fed, and 3 bee-papers subscribed for.

My ledger account would stand something like this: Cash paid, $7 to $8; honey sold, $5 to $6. Given away and used, $2 to $3. As my hopes are banked on 7 colonies this winter instead of 2, I shall have to wait until spring to see if my bee-keeping has been a paying business or an expensive luxury.

E. B. WHIPPLE.

Hillsboro Center, N. H., Feb. 20.

Bees Wintering Well

Winter here has been quite severe, but it seems to have broken. I had my bees in a dark room where the temperature was even, but very cold. Last Sunday was an unusually bright and warm day, so I got out one colony and let it fly. I found the bees clean and healthy, but short on stores. Still, if I can help them to hold their own from this time till spring actually opens, I will have a good start for the summer's campaign.

I ran across the American Bee Journal away up in the mountains of Montana last October. It was like meeting an old friend.

S. E. FARNHAM.

Madison, Minn., Feb. 20.

Black Bees vs. Italians

In the discussion of the black and the Italian bees with Mr. Macdonald, on page 105, there is no hint of a variation in type, in either. Two types of Italians have been recognized in this country from the beginning, and these differ in those characteristics that make for profit, as is shown by the fact that honey-producers, as a rule, prefer the one and queen-breeders the other.

There are 2 types of blacks, also—the one black, small and vicious; the other brown, large and gentle. Intermixture in some districts has nearly effaced these distinctions, but in others they are as real as the band of the yellow bee. Now, why is it that in all later references to the black this well-known difference of type is ignored? As well group all the yellow races as one, and judge them by the Cyprian.

In these discussions is not the word "strain" often misused? Would not type, or, better still, race, be more to the point? You may condemn a bee whose ancestors ages ago swarmed in the Black Forest, while Mr. Macdonald may commend a bee whose ancestors never crossed the Channel. There may be a British bee. If Nature, through ages of isolation, has produced races on the Continent, why not in the British Isles? Certainly, their geographical situation and climatic conditions should seem fully as favorable as the corresponding conditions in Carniola. Personally, I use the Italian, but think that careful breeding might eventually put the brown bee in the lead.

Clifton City, Mo. E. W. DIEFENDORF.

The Chicago-Northwestern Convention Photograph was taken Dec. 6, 1906. which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

TEXAS QUEENS

The Famous Honey-Producers

Texas Queens

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I am booking orders now for April, May and June delivery, for **Carniolans, Italians,** and **Goldens**—equal to the best, regardless of price. PRICES:

Tested Queens	$1.00 each;	$10.00 per doz.
Warranted "	.75 "	7.00 "
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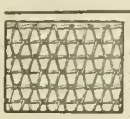
Restock your apiaries with Atchley Queens; they do the rest. We breed all of the leading races in their purity. Untested, $1 each; $9 per doz.; $60 per 100. Tested, $1.50 to $2.50 each; Breeders, $3 to $5 each. 1, 2, and 3 frame Nuclei, and bees by the car-load, our specialty. Get our prices before you buy. We manufacture standard bee-supplies cheap. Catalog free. Will exchange queen-bees or bee-supplies for honey. Beeswax wanted at all times. **The Bee & Honey Co.**

WILL ATCHLEY, Mgr.

11Atf Box 218, Beeville, Bee Co., Texas.



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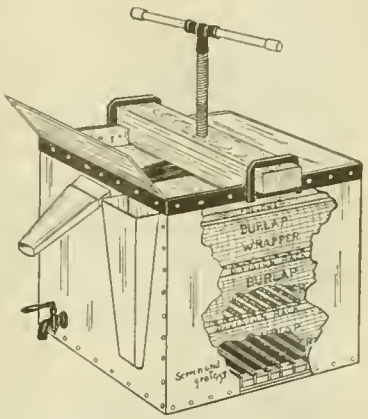

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Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

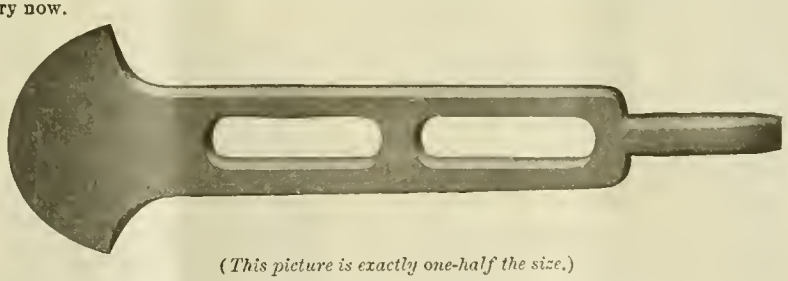
Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

Mention Bee Journal when writing.

Something New=The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



Only 30c, by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1¾ inches long, ⅝ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

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American Bee Journal

Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant. Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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SAVE YOUR QUEENLESS COLONIES

Introduce a vigorous Tested Queen; we can furnish them by return mail, from our fine strain of 3-band Italians; Queens reared last fall, and wintered in 4-frame nuclei. None better.

Choice Tested Queens, by return mail, $1 each. Untested Queens ready to mail March 15, 75c; $8 per doz. No disease, and satisfaction guaranteed

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Not a Fish Story but a FACT.

Annual cash dividend to bee-keepers on Supplies bought during

March

New Goods, Best Quality. To-morrow will be too late. Write **TO-DAY.**

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QUEENS FOR YOU

Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.

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CONVENTION NOTICES.

Texas.—The Northern Texas Bee-Keepers' Association will hold its annual meeting at Ladonia, Tex., on April 3 and 4, 1907. All bee-keepers are invited to attend. No hotel bills to pay. W. H. WHITE, Sec.
Blossom, Tex.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual convention at East Jordan, Mich., on April 10 and 11, 1907. Headquarters will be at the Russell House, where a $1.00 per day rate has been secured. IRA D. BARTLETT, Sec.
East Jordan, Mich.

Utah.—The Utah Bee-Keepers' Association will hold its spring convention in the Mayor's office in the City and County Building, April 5, at 10 a.m. A revision of the bee-protection law, reports on the smelter settlement, and other questions of interest will be taken up. All are cordially invited.
E. S. LOVESY, Pres. A. FAWSON, Sec.

Carniolans! Italians!

FOR SALE

No disease. 2-comb Nucleus, with Queen, $3, f.o.b. express office here.

A. L. AMOS, Comstock, Nebr.

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Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6Etf W. J. McCARTY, Emmetsburg, Iowa.

Please mention Bee Journal when writing advertisers.

While the **Present Stock** of these **BEE-HIVE CLOCKS** lasts, we will sell them at only **$2.00 each,** by express; or $2.50 for the Clock and the Weekly American Bee Journal one year. **Better order at once,** before all are gone.

The Bee-Hive Clock

A $4.00 CLOCK FOR $2.50 ... With the American Bee Journal 1 Year—Both for Only $3.00

We have originated and had made specially for our readers, a bronzed-metal Clock, called **"The Bee-Hive Clock."** It is 10¼ inches wide at the base, 9¾ inches high, and deep enough at the base to stand firmly on a mantel or elsewhere. It is a beautiful piece of work, and would be both ornamental and very useful in any house, and particularly in a bee-keeper's home.

The Clock part itself is warranted for 3 years to keep good time. So it is no plaything, but a beautiful and needful article for everyday use.

Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

How to get "The Bee-Hive Clock" FREE

Send us **5 New Subscribers** to the Weekly American Bee Journal for one year, at $1.00 each, and we will send you this beautiful "Bee-Hive Clock" **FREE** (excepting express charges). Or, send us **4 New Subscribers** (at $1.00 each) and 50 cents—$4.50 in all. Or, **3 New Subscribers** (at $1.00 each) and $1.00—$4.00 in all. Or, **2 New Subscribers** (at $1.00 each) and $1.50—$3.50 in all.

Only $2.50, f.o.b. Chicago, by Express.
Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee-Hive Clock

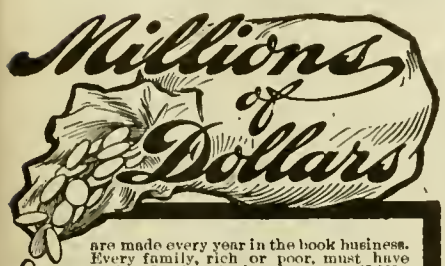
Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

Address all orders to **GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.**



are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloqnence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

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Address your letter to me personally, like this—

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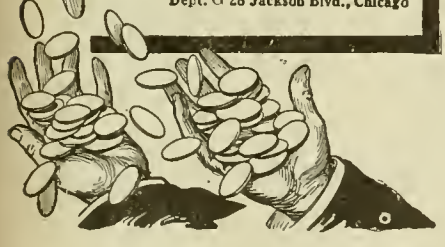

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Three Car-Loads Just Received. Ask us about them. Prices right.

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The LEWIS HIVE BODIES are far superior, both in material and workmanship, to any I ever bought.
As ever yours, E. D. TOWNSEND.

Advanced Bee-Veil; cord arrangement; absolutely bee-proof; best on earth. Made of Imported French-Tulle veiling. Cotton with silk face, 50 cents, postpaid.

Platteville, Wis., April 14, 1906.
A. G. WOODMAN CO., Grand Rapids, Mich.
DEAR SIRS:—Your Advanced Bee-Veil just arrived, and is, as advertised, the best on the market. Find enclosure for 10 more veils. N. E. FRANCE.

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American Bee Journal Novelty Pocket-Knife Gold Fountain Pen

All for **$3.00**

(This cut is the full size of the Knife.)

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

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⅔ size

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American Bee Journal

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HERSHISER WAX-PRESS

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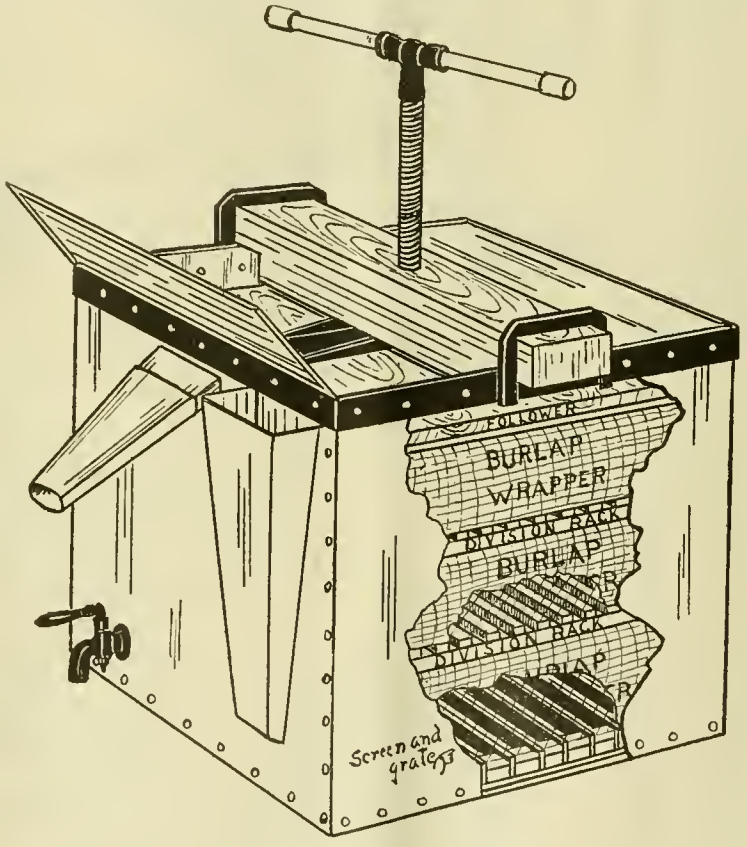
We are offering to our customers this year for the first time the Hershiser Wax-Press, a cut of which is herewith given. It has just been invented, and consequently has never before been offered for sale.

The Hershiser Wax-Press is not only the best wax-press ever put on the market, but it is an almost perfect device for extracting wax. **We will guarantee it will extract within 1 percent of all the wax contained in the slumgum placed in it, if properly operated.** All the other wax-presses now in common use will necessarily leave in the slumgum a large amount of wax, the quantity varying from 8 to 25 percent; in other words, the Hershiser Press is able to get about 7 percent of wax out of slumgum after the very best of all other wax-extractors has obtained the greatest possible amount of wax from it.

For Sale Everywhere
Ask Your Dealer About It



Read what One of the First Users, who is an Experienced Bee-Keeper, says of the Hershiser Wax-Press:

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My Dear Sir:—I have had one of your wax-presses for about 30 days, have used it about one-half of the time and got out 700 pounds of nice wax from the slumgum and refuse that accumulated in 18 months from the kettle and boiling process of getting out wax that I have used for years and thought I got out all the wax. The machine more than paid for itself in 5 days. Mr. Hershiser, I think I am safe in saying that I have thrown out in the field $100 to $150 worth of wax each year for the last 10 or 15 years. You surely have them all stopped on wax-presses.

W. L. COGGSHALL.

Price and full information given in the Hershiser Folder, sent free by

G. B. LEWIS COMPANY

The original bee-ware people, Watertown, Wis., or its distributing houses as given below:

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IOWA—Adam A. Clarke, Le Mars.
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MINNESOTA—Wisconsin Lumber Co., Minneapolis, 432 Lumber Exchange.

MISSOURI—E. T. Abbott, St. Joseph.

OHIO—Norris & Anspach, Kenton.

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PENNSYLVANIA—Cleaver & Greene, Troy.

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UTAH—Fred Foulger & Sons. Ogden.

WASHINGTON—The Chas.H.Lilly Company, Seattle.

A GREAT IMPROVEMENT
Will be found in
The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]

Headquarters for Bee-Supplies

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Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & CO.

PHILADELPHIA, Mar. 11.—The comb honey market has been quite active in the last two weeks, and the continual cold weather has kept things moving. Many cheap lots have been sent in from the producers, which have had a tendency to bear on the market and weaken the prices somewhat. Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted honey, 7@8c; light amber, 6@7c. Beeswax very firm, 32c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 16.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Mar. 11—There is very little demand for extracted honey at this writing, which is only natural, owing to the unsettled weather at this time of the year. However, we are looking forward with interest to a revival of trade, as soon as the warm spring days are here. We quote amber extracted honey in barrels at 6¼@7½c, the price depending upon the quantity purchased. Fancy table honey in crates of two 60-lb. cans each, at 8@9c. There is little demand for comb honey owing to the lateness of the season. Choice yellow beeswax, 32@35c, delivered here.

THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, March 6.—The market on comb honey has been quite brisk the past week. Entirely sold out of fancy white. No. 2 is selling for 12½@13c. White clover extracted in cans, 9c; amber in barrels, 6c. Beeswax, 30c, delivered here. C. H. W. WEBER.

KANSAS CITY, Mar. 4—The demand for comb honey is only fair at present. The market is almost entirely bare of extracted honey. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted honey, white, per pound, 8@10c; amber, 8c. Beeswax, per pound, 25@27c. C. C. CLEMONS & CO.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

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3Atf JAMES ISLAND, S. C.

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BEE-SUPPLIES in Cincinnati.

Let us give you quotations on Sections, Hives, Foundation, etc. We will save you money.

Beeswax wanted at 31c per pound cash; 33c in trade, delivered here. (Send for our free catalog.)

THE FRED W. MUTH CO.
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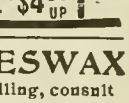
Time tested and proven success; thousands in use; sold direct to you at wholesale prices. You get the maker's guarantee and save the middleman's profits. The *Remarkable Chick Trap and Nursery*—a feature no other has—explained in catalog. It's *free*. Write for it today.
Gem Incubator Co., Box 52, Trotwood, O. $4.88 UP



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E. N. EATON, M.Sc., Chemist.
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Catalog for either, with instructions to beginners—Free.
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For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

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Early order discounts on all kinds of goods for the bee-keeper.

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I will sell Queens and Nuclei, after March 1, at —1 Queen, 25c; doz., $3; Nuclei, with Queen, 1-frame, $1.25; 2-frame, $1.50; 3-frame, $1 75

4A13t R. M. SPENCER, Nordhoff, Calif.

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Our Discounts on

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are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

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We make them. Have you seen them?

Have you received our new 1907 Catalog? It is surely the easiest Catalog to order from that you ever saw. It is so easy that you cannot make a mistake in your orders—a child can order from it as well as an adult. Write for it to-day; it is free for the asking. It is something new and entirely different from any you have ever seen.

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We will Buy and Sell

HONEY

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We are always in the market for

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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year MARCH 28, 1907 Number 13

AMERICAN BEE JOURNAL

Another Group of Southern Scenes

(See page 258)

TWENTY PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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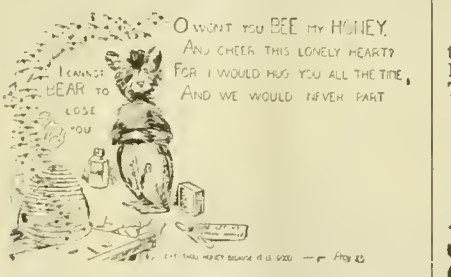
are just the thing.

We send them by Return Mail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AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

As most of our readers know, we have gotten out a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

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Because the bees like it best and accept it more readily.

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The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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American Bee Journal

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Have sold several thousand dollars worth of these goods, and no complaint.

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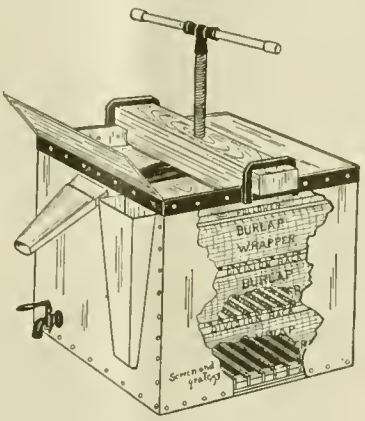
Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Root's Goods at Root's Prices

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New Metal-Spaced Frames. Headquarters for the Danzenbaker Hive, the coming hive for comb-honey experts. If interested in this hive ask for pamphlet "FACTS ABOUT BEES." It is mailed free.

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The Famous Honey-Producers

Texas Queens

The Famous Honey-Producers

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Tested Queens	$1.00 each;	$10.00 per doz.
Warranted "	.75 "	7.00 "
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Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1.00; six, $5.00. Teated, $1.50 up. Correspondence solicited.

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Introduce a vigorous Tested Queen; we can furnish them by return mail, from our fine strain of 3-band Italians; Queens reared last fall, and wintered in 4-frame nuclei. None better.

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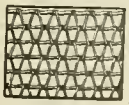

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American Bee Journal

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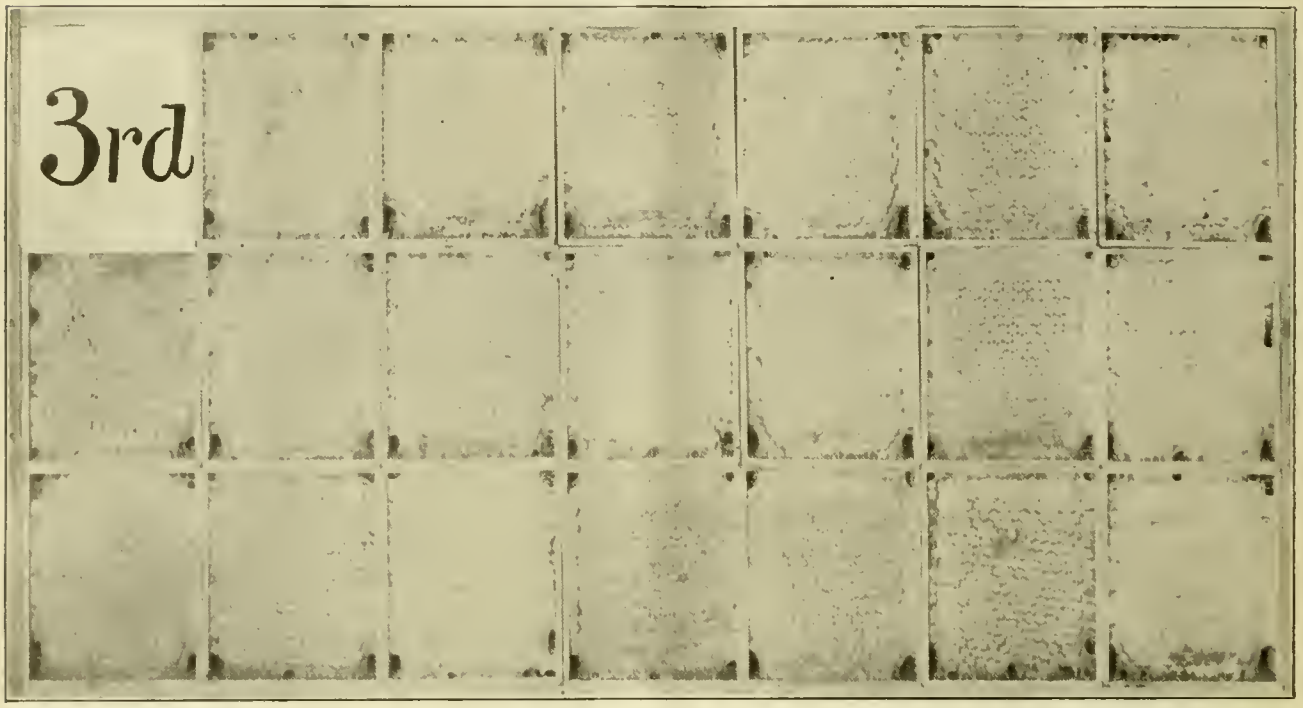
THE FANCY COMB HONEY HIVE



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(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., MARCH 28, 1907 | Vol. XLVII—No. 13

Bottom-Starters in Sections

Some discussion has lately taken place in other bee-papers with regard to the necessity for bottom-starters in sections, the discussion being started by the statement of Fred W. Muth, that the use of bottom-starters was one of the factors in securing lower freight-rates. Editor Hutchinson held them unnecessary. Editor Root thought only experts could manage without them, but accepted the following amended statement which was given in a Stray Straw:

"Any one can get along without bottom-starters by crowding the bees enough; but it is more profitable to use bottom-starters than to crowd them so. Without bottom-starters, fastening to the bottom is about the last work done on a section, and with room enough it may not be fastened at all; with bottom-starters it is about the first thing, room or no room."

Production of Bulk Comb Honey

When Texas bee-keepers first began to talk about cutting up sheets of comb honey, packing in cans and filling up with extracted honey, it was considered a fair subject for quiet amusement. That consumers should show any strong desire for such messy stuff was not to be seriously considered. Yet the production of bulk comb honey has not passed away as a 6-months' fad, and to-day it seems to be a pretty well settled belief that it is the most profitable form in which to produce honey—at least in Texas.

Upon hearing the enthusiastic praises of bulk comb honey sung by its advocates, it is inevitable that the question will arise in the minds of others, "Will it not be a profitable thing for me to adopt this form of honey-production?" A number of different factors enter into the problem.

We are told that one-third of a can of bulk honey is extracted, and that the price obtained for the combination is 3 or 4 cents more than the price of extracted honey. That gives a basis on which to figure, and it will not take much figuring to show that much depends upon the relative prices of comb and extracted honey as to whether it is more profitable to sell them together or separate. Take the Chicago market, with 16 cents for best comb and 8 for best extracted. If 2 pounds of comb and 1 of extracted be sold together as bulk honey at 3⅓ cents more than the price of extracted, that will make 3 pounds sold at 11⅓ cents a pound, or 34⅓ cents in all. If sold separately, the 2 pounds of comb honey would bring 32 cents, and the 1 pound of extracted 8 cents, or 40 cents in all. On the face of it, the man who depends upon the Chicago market would lose 5⅔ cents on 3 pounds of bulk honey, or nearly 2 cents a pound.

The printed report for any other market will likewise show a loss, the most favorable case being that of Cincinnati, with comb at 14½ and extracted at 8½. Sold separately, 2 pounds of comb and 1 of extracted will bring 37½ cents; sold as bulk at 12 cents a pound, it will bring 36 cents; still a loss, but only ½ cent a pound.

But suppose comb is 10 cents and extracted 5. Sold separately, 2 pounds of comb and 1 of extracted will bring 25 cents. Sold as bulk at 8⅓ cents, it would bring 25½ cents—a gain of 1-6 cent a pound.

In general it will be found that the smaller the margin between the price of comb honey and the price of extracted, the greater the chance for gain by selling as bulk.

If comb honey be produced in frames and cut out, the cost of sections and separators will be saved—an important item. Bees will probably produce more honey in large sheets than in small sections; just what percent more has probably not been determined.

The readiness to accept bulk honey on the part of consumers is another item. In Texas, the popularity of that kind of honey is said to be so great that the supply is not up to the demand. In some localities it might not be easy to dispose of bulk honey at any advance over extracted.

All this is said with no thought that it gives a direct answer to the question whether it be profitable to enter the lists as a producer of bulk comb honey; it only gives a hint as to some of the things to be considered by any one who seriously enters upon its consideration.

Migratory Bee-Keeping

In Germany this is practised to a large extent as compared with this country, bees being hauled to the buckwheat fields or the heath fields, either by wagon or by steam cars, and left in charge of a keeper. In England, also, bees are taken to the moors. A writer in the British Bee Journal says he pays 25 cents per colony "for standage and looking after," which does not seem a very large amount. There is a good deal in fashion, and possibly it might be a profitable thing if more bee-keepers in this country would get into the fashion of moving their bees for a particular flow.

Electricity for Bee-Cellars

Electricity has been suggested, if not used, for heating bee-cellars. Editor Root seems quite pleased with results obtained by ventilating a cellar with a small electric desk-fan; and now if we can have electric cars to take the bees in and out, we will be well started on the way toward electric bee-keeping.

Advertising Honey

H. B. Phillips, who says he is "the largest bottler of pure high-grade honey in Maine," is doing some advertising of honey along the line so often suggested in these columns. Here is what he says about it in a form letter:

Dear Sirs:—With the idea of creating a larger demand for comb and extracted honey

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I have inserted an advertisement in the Portland Evening Express and Portland Sunday Telegram, to be run quite a period of time. The Feb. 23d number of the Evening Express, also the March 3d number of the Sunday Telegram will each contain an interesting article about honey and its value as a food; and possibly later on there may appear more of these articles, which, together with my advertising, should create a good demand for honey bearing my label, which I guarantee to be straight *bees' honey* of the best quality and flavor.

Yours, for Pure Honey and a larger demand for it. H. B. PHILLIPS.

We think Mr. Phillips is following the proper methods — advertising in the daily newspapers, and also securing the publication of articles about honey as food, etc. But this ought to be done all over the country. And if enough of it should be done before the next crop of honey appears, no doubt the demand will take the honey about as fast as it comes on the market—if it isn't all rushed to one market at one time.

Specify the Page, Please

Dr. Miller makes a special request that when, in asking a question, the inquirer refers to something in a preceding number of this Journal, the page should always be given. Otherwise it may take a long time to find the matter referred to, if indeed it be found at all; and oftentimes no clear answer can be given if such reference be not found.

It would be for the pleasure of the readers if this rule were always followed when anything on a previous page is referred to, whether any question be asked or not. Don't speak indefinitely of something John Jones said some time ago, but mention that it was on such and such a page. It may take a little hunting up sometimes on the part of the writer, but it is better that one writer should take the time of hunting up than to have all the readers thus troubled.

Distinguishing Laying Workers

The idea that a single culprit is responsible for all the mischief in a colony afflicted with laying workers seems hard to be overcome, and with it there is more or less tendency to think that a laying worker is different in appearance from other workers. The following from the British Bee Journal is an instance:

Can any one tell us how to distinguish these? I have never had one in my hives before this year. But several times, although I examined the combs, I could not spot it. I judged by a number of eggs being seen in each cell, and drone-brood reared in worker-cells.

In a colony of laying workers, dissection has shown that eggs were present in a large number of the workers, and it is reasonable to suppose that in general such is the case. Neither is a laying worker different in appearance from any other worker. Probably the only way judgment can be pronounced with confidence is to see the worker in the act of laying.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Miscellaneous News-Items

Mr. J. C. Calvert, of the A. I. Root Co., Medina, Ohio, called at our office last week when in Chicago as a delegate to a conference which had for its object the planning of a union of three church denominations of this country—the Congregational, Methodist Protestant, and United Brethren. Mr. Calvert represented the first-named.

Splendid Rains in California.—Prof. A. J. Cook, of Claremont, Los Angeles Co., Calif., March 14, wrote us as follows concerning the rains and prospects in Southern California:

In all my sojourn in Southern California, now more than 13 years, I have never known such splendid rains as we have had the past season; and the end is not yet. Our average here is about 15 inches, and we have already had 22.22 inches this winter. As we have still to have the best of our rains, we may be sure that this will be a record-breaker, not only as to rainfall, but in fruit, grain, and honey. It looks now as if we should have one of the best honey-years that we have had in the State. A. J. COOK.

If the present prospects result as anticipated, the bee-keepers of California will be greatly encouraged again. We are wishing that this year there may be the largest and best honey crop all over our great country, that the oldest living bee-keeper has ever seen. Now, what more than that can we hope for for our readers?

Some Pleasant Memories will be suggested to at least a few readers when looking at the front-page pictures this week. As we mentioned once before, we are indebted for certain pictures to D. H. Coggshall, of New York; J. J. Measer, of Kansas; and C. J. Thies, of Wisconsin.

The present six reproductions may be described as follows:

No. 1 shows bales of cotton ready for shipment. It seemed as if there were almost acres of such bales at different shipping points along the way.

No. 2 represents a part of the famous Alamo, and from left to right, C. J. Frank, of Illinois; J. J. Measer and Dr. Bohrer, of Kansas; and D. H. Coggshall—all "looking pleasant" while they wait to have their "picter tooken."

No. 3 is a tree with hanging gray moss. This is a beautiful sight in reality, but the picture doesn't do it justice. It is a very pretty as well as common sight in the South.

No. 4 shows (from left to right) Geo. D. Caley, of Nebraska, and again Mr. Measer and Dr. Bohrer. This picture was taken in one of San Antonio's beautiful city parks.

No. 5.—Mr. Coggshall standing by one of the cotton-wagons, such as they use in the cotton-fields when picking. A picker's bag is hanging at one corner of the wagon.

No. 6 is the Santa Rosa Infirmary in San Antonio, where Mr. Louis H. Scholl was sick for quite a while last year. It is just opposite Market Hall, where the National convention was held last Nov. 8 to 10. There is a beautiful grove in front of the Infirmary, which is also shown in the picture.

The Missouri Bee-Keepers' Law, as passed by the State Legislature and signed by Gov. Folk, has been sent to us for publication by Mr. Robt. A. Holekamp, who worked so hard for its enactment. When sending the copy, Mr. H. wrote as follows:

DEAR MR. YORK:—Enclosed find our Missouri Bee-Keepers' Bill, which has been passed by our Legislature, signed by the Governor, and is now the law.

There is an emergency clause which brings this law in force without requiring the usual 90 days after its approval. It will be well for all bee-keepers of Missouri to become acquainted with it.

I am glad that after so much work we have finally succeeded in getting the needed protection, and hope that the Inspector may be supported by all bee-keepers, so he may succeed in clearing our State of the diseases among the honey-bees.

ROBT. A. HOLEKAMP,
Sec. Missouri State Bee-Keepers' Association.

The law referred to in the foregoing reads thus:

AN ACT

To provide for the appointment of a State Inspector of Apiaries, and to regulate the duties thereof; providing a penalty for disposing of, or importing into this State diseased honey or bees, or for hindering the Inspector in the fulfillment of his duties, with an emergency clause.

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1.—The State Board of Agriculture of the State of Missouri shall appoint a State Inspector of Apiaries to aid and assist in the development and protection of the honey industry in the State of Missouri, and for the prevention and suppression of contagious or infectious diseases among honey-bees, such as foul brood, black brood, paralysis, etc., which is said to exist at the present time among some of the apiaries of the State. Said Inspector of Apiaries shall be a practical apiarist, and shall give to the said Board of Agriculture, before his appointment, satisfactory evidence of his practical knowledge of handling bees and their diseases, and shall hold his office for the term of 2 years, unless removed for cause.

SEC. 2.—Said Inspector shall, when notified of the existence of the disease known as foul brood, or other infectious disease among apiaries, examine such reported apiaries and all others, in the same locality, and if satisfied of the existence of foul brood, or any other infectious disease, shall give to the owner or person having charge of any such apiary, full

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instructions as to the manner of treating them. Within a reasonable time after making the first examination, the Inspector shall make a second examination, and if the conditions of any of the colonies affected is such as, in his judgment, renders it necessary, he may personally treat the disease, or, if in his opinion, it is necessary to prevent further spread of the disease, and the owner refuses to treat them according to the instructions of said Inspector, then the Inspector may burn or otherwise destroy such diseased bees, comb or other material that might cause the spread of the infection.

SEC. 3.—Said Inspector shall have the right to enter any premises where bees are kept, for the performance of his duties.

SEC. 4.—The Inspector shall make a full report to the Secretary of the Board of Agriculture at least once each year, stating the number of apiaries inspected, the number found to be diseased, and the number treated, and such other information as he may deem important. The Secretary of the Board of Agriculture shall publish, in his annual report, or otherwise, such of the information as he deems of importance to the apiarists of the State.

SEC. 5.—Said Inspector shall receive four dollars for each day actually and necessarily spent in the performance of his duties, and shall be reimbursed for the money expended by him in defraying the necessary traveling expenses: Provided, the total expenditure for such purposes shall not exceed one thousand dollars in any one year: Provided further, that the said Inspector shall render to the Board of Agriculture an itemized account of his per diem and expenses, and upon approval of the same by the Executive Committee of the Board of Agriculture, the President and Secretary of the Board are instructed to draw a warrant upon any available funds for the amounts allowed.

SEC. 6.—Any owner of a diseased apiary, or any person, persons, company or corporation who shall knowingly sell, barter, give away or import into this State any colony or colonies of bees, honey or other article infected with disease, or expose other bees to the danger of contracting such disease, or refuse to allow the Apiary Inspector to inspect or treat such apiary, honey or other articles so infected, or shall resist, impede or hinder him in any way in the discharge of his duties, under the provisions of this Act, shall be guilty of a misdemeanor, and shall be fined not less than ten nor more than twenty-five dollars for each offense.

SEC. 7.—It being necessary to treat the diseases herein provided for in the spring or summer, in order that satisfactory results may be obtained, creates an emergency within the meaning of the Constitution, and this Act shall go into force and effect upon its passage and approval.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

The Chicago-Northwestern Convention Photograph was taken Dec. 6, 1906. which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

Testing the Purity of Queens

BY G. M. DOOLITTLE.

On pages 137-8 is an item on the purity of Italian queens, under the above heading, written by one signing himself "Subscriber" and having "New York" at the bottom, by which I infer that he is a resident of New York State. If only the older bee-keepers of the world were living, I should not feel called upon to say a word regarding the matter touched upon by "Subscriber," but being aware that two-thirds of the readers of the American Bee Journal have commenced their bee-keeping life inside of the past 15 years, it does not seem best to allow so erroneous an item as the following from "Subscriber's" pen to go unnoticed. Hear what he says:

"What is a tested Italian queen? A tested, or breeding queen should be a bright yellow. Every drone must have 4 yellow bands, and you cannot discern any varying in the color. The workers must have 3 yellow bands, with light gray on 2 bands. The under part of the abdomen should be bright yellow to the tip. Now let us test this queen. If she is free from any black blood, the drones from every young queen reared from her eggs will have the same number of bands as the mother-queen. Every drone is marked alike. No person can see any difference in the drones. You must trace the pure blood from the drone progeny. Where the drone progeny varies in its markings it is a sure sign of black blood."

Now, it will be noticed that "Subscriber" starts out by asking "What is a tested Italian queen?" which leads us to infer that he is talking about *Italian* bees. Therefore the first question that comes to us is, What is an *Italian* bee? This question can have only the one answer; "A bee which descended from parents reared in *Italy*, and from that part called 'Liguria,' where they were first found by Spinola, and named by him as Apis Ligustica." (See page 293 of "Langstroth on the Honey-Bee," as revised by Dadant.)

Now, do the bees which come from Liguria, Italy, correspond with the description given by "Subscriber?" By no means. In fact they are almost as far from it as daylight is from darkness. Queens imported direct from Italy vary in color all the way from being nearly or quite as dark as the German or black queens, to those approaching some of our best golden queens as to color; while the workers from many of these queens are so dark that they have to be placed upon a window after being filled with honey, in order to discern that they have any yellow (?) bands at all. Talk about pure Italian worker-bees having the under part of the abdomen "bright yellow to the tip!" As far as I could ever see there was no difference as to the color on the underside of the abdomen of workers from an imported Italian queen, from that on the underside of the abdomen of workers from a black queen. The color on the underside of both varies but little from a *very* dark brown.

But I do note that when we are to decide as to the purity of the Italian bees we have, the *drones* are to be what we are to look at as to their markings. "Subscriber" says: "Every drone must have four yellow bands, and you cannot discern any varying in color. . . . . Every drone is marked alike. No person can see any difference in the drones. You must trace the pure blood from the drone progeny, not the worker progeny. Where the drone progeny varies in its markings it is a sure sign of black blood." This certainly is a *new* test for Italian purity to us older readers who date back to where the first Italian bees came to this country. The drones from those original importations were so nearly like the drones from a black queen that it was often like a "Chinese puzzle" to tell "which from t'other." Talk about drones from an imported queen having four yellow bands! Not a drone had four bands of any kind on them. The best show only a leather or chestnut color in spots or splashes, varying as much as to their markings as did the sheep that Jacob was to have from his father-in-law, Laban, in old Bible times.

Paragraph 555 in "Dadant's Revised Langstroth" reads thus, where speaking about Italian bees: "The drones and the queens are very irregular in markings, some being of a very bright yellow color, others almost as dark as drones or queens of common bees." And this should be the best of authority, as the Dadants have probably imported more Italian queens into this country than any others.

Another large importer is the A. I. Root Company. Listen to what they say regarding this matter: "The drones and queens from queens obtained direct from Italy, vary greatly in their markings." ("A B C of Bee Culture," page 222.)

And I might go on and give authority after authority, which perfectly agrees with both Dadant and Root in this matter.

No! No! There is no such thing as perfect markings with pure Italian drones or queens as they come direct

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from Italy. And the bees that come from Italy are the only origin for *pure Italian* bees. Consequently "Subscriber" must be mistaken in what he gave us in the American Bee Journal as to "what is a tested Italian queen." And it was necessary that a few words be said on this matter, else all beginners who read "Subscriber's" account of what a pure Italian queen should produce, would be disappointed in the queens they bought, and condemn queen-breeders as frauds for sending out impure stock.

Of course it is understood by the older readers that our American queen-breeders, or some of them at least, have been breeding toward the yellow side of importations, until we have in this country at this date, what are known as "golden Italians," some of which will conform pretty well to the description given by "Subscriber," but these bees are no more pure, if as much so, as are those that are a dark leather color, adhering more perfectly in breeding to conform with such bees as are gotten from our many importations.

Now, I wish to call attention to "Subscriber's" statement that "Where the drone progeny varies in its markings it is a sure sign of black blood." Here he is mistaken as elsewhere, for let the best golden queen mate with a drone from an imported or *pure* Italian queen, and her young queens will give drones varying almost, if not quite as much in color, as would be if said queen had mated with a black drone. I have little doubt but what the queen-breeder from whom he obtained his queens was so near some other apiary having imported or leather-colored stock in it, that part of the queens he received mated with those imported drones from the leather-colored branch of the Italian bee. And if this were so, then he could have no reason to talk about "mongrels," for each branch of these Italian bees is as pure as the other.

This color-matter has mystified and bewitched many, and a little explanation of it will help breeders and customers to have a little more charity for each other.

Borodino, N. Y.

No. 2—Feeding and Feeders Various Kinds

BY C. P. DADANT.

We will divide bee-feeders into four classes: Outside feeders, bottom feeders, body feeders, and top feeders.

The most elementary way of feeding bees is to put the feed outside—anywhere—and attract the bees to it. Some hold that this is the best and only method to feed bees as a stimulant to breeding, because it is the only feeding that resembles a honey crop, and in which they must take wing in search of the food. Troughs put out in the sun, jars inverted over a dish and filled with liquid food, and also combs of honey have been fed in this way. Years ago a European clergyman, the Rev. Father Babaz, devised an outdoor feeder which he called "the bee-keeper's cellar" because he locates it in the doorway of a cellar, and which he proposed to use to supply the bees with different sorts of food from which they were to produce honey. Such cranks have been met with, from time to time, who thought that bees could transform any sort of sweet into good honey, and who thus imagined that they had found an infallible method of getting rich. But they soon find out that there is no royal road to wealth, even by feeding bees.

I think that the only advantage of the method of outdoor feeding is the one stated above, that it resembles a honey crop more than any method of indoor feeding, as far as the bee's imagination may be concerned, and perhaps leads it to more activity. But there are several very evident drawbacks, not the least of which is the probability that when you are feeding your bees in this way, you run a very great chance of also feeding any bees that may have their home in the neighborhood, sometimes even as far as a mile or two from your apiary.

Of course, you can bait your own bees, by presenting the food to a few bees and while they are sipping it carry them to the spot where the food is kept. In this way, you may give such colonies as you wish to feed the advantage over the others. But, when there is any feeding going on out-of-doors, the bees make more or less noise in carrying it back and forth, the other bees which notice it begin to roam about and never stop their search until they have found the spot, to which they are easily led by the flight of the others. Not only is it possible that you may feed your neighbor's bees in this way—fully as much, and to the detriment of your own bees—but you will also feed unwillingly some of your own colonies that may not need it at all.

As a rule, the colonies which are most in the need of food are the weak ones. In outdoor feeding you will surely feed the strongest as well as the weakest, because the strong colonies have bees out early and late, and in greater numbers than the weak. If the feeding spot is not of great extent, it is quite possible that one or two of your best colonies will go there in such numbers that they will monopolize the feeder, by driving the other bees almost entirely away, or at least may make it difficult for the latter to get their share by fighting them when they alight on the feeder. In any case, it is out of the question for you to control the feeding. Still, this method may be pursued on a small scale without bad results.

In the month of August, 1885, I paid Mr. Langstroth a visit, and had the pleasure of witnessing the feeding, out-of-doors, of 3 or 4 weak colonies which he desired to stimulate to breeding. He had the feed—only 2 or 3 spoonfuls of sugar syrup—in saucers with a few blades of grass over the top, so the bees would not drown in the liquid. The feeding was done about sunset, when the other colonies were quiet. Each of these weak colonies had been fed for some days previous, at the same hour, and they were expecting it, for several bees were flying about in the grass, in front of the hives. As soon as the food arrived, they went to work on it, and Mr. Langstroth, the next morning called my attention to the fact that those colonies were entirely quiet. They knew the hour of feeding, and expected the supply each day at the same hour and in the same spot.

When bees are short of pollen, in early spring, they may be given flour—either rye or wheat—in this way, and they will come from day to day until pollen is found in the blossoms. There is no objection whatever to feeding the flour out-of-doors. In fact, we have never been able to have it accepted by the bees in any other way, and the supply of flour thus furnished is so inexpensive that we need not begrudge our neighbor's bees a portion of it.

There is no doubt that feeding, when continued too regularly, will render less service than if intermittent, because the bees—some of them, at least—will become used to it, and will not even look elsewhere for food. It is the same in the case of flour as a substitute for pollen. You will see bees still coming to the flour, when the greater number have deserted it and are finding pollen in the blossoms, but the number of the flour-gatherers decreases every day, and whether you feed flour or honey, the interruption of a single day in the feeding will send the laziest ones to the fields. It can hardly be called laziness, but they get into a habit from which you must break them after having nursed it, when you find that they no longer need the help.

Hamilton, Ill.

No. 1—Things to Do, and Why

Management in Spring—Clipping—Bur-Combs—Stores, Etc.

BY R. C. AIKIN.

We are prone to think our way is the best and the only right one. Some incline to the opinion that the hive is the thing that will give results, with management secondary. Others lay much stress on the strain or race of bees, age of queen, locality, and many other things.

Yes, I have hobbies, too—hives and methods peculiar to myself; but it is not my intention to tell you that my way is the only one, or the right way; my purpose is to tell of things to do, and the *why* of doing; tell you of principles, relation of factors, combinations that will produce results. I cannot tell you that March is the time to do this or that; latitude, altitude, temperature as affected by moisture and in its high or low degrees and rapid or slow changes; the time of year, whether the flow be slow or fast or intermittent, etc., and a great host of things that cause the problem to change—I must deal with the subject in such a way as to lead the reader to a knowledge of factors and their relation, then he must use reason and judgment, and do this or that when the doing of it will produce the result desired.

I remember reading years ago a little rhyme or verse—its wording has

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gone from me these many years; the substance of it was that if water and grease were put together there was war, and no amount of coaxing would bring peace or union, but just add some potash—immediately the whole became one mass—soap. That is about the way things go in a bee-hive; some things will not mix at all, with all the coaxing and persuasion the apiarist can bring to bear; put in the right elements or factors and all is peace and prosperity.

Read a former article which I wrote for these columns about cell-building, wax-secretion, etc., and let it be a prelude to these following articles; it will save me some repetitions. I do not know all about bees, hives and nectar-secretion, nor have I yet met all the conditions and factors that enter into this complex business known as bee-culture. I am just one of the many, and will try to tell what appears to me to be the truth, and you are to put with this what you know, and arrange the various blocks of wisdom and knowledge into workable form or combination.

We may learn many things, however, from a fool; *we* may have an unlimited store of knowledge and yet be without wisdom—a fool. The man is wise who can properly apply his knowledge. My desire is to add to the fund of knowledge of many readers.

Some Things to do in Spring.

There is much that can be done in spring that will aid in the work that must be done later when time is very valuable. About the very first thing, where bees winter on the summer stands, is to look up all colonies that have died, and remove from the yard the hives that may have stores in them; if left to be robbed it stirs up the entire yard and may cause much annoyance, as causing weaker colonies to be robbed, or the bees to be cross and sting people if in exposed locations, or where there may be people passing near. Gather in all such hives.

Not so very long ago I read a dispute—I think it was between R. L. Taylor, and probably Mr. Doolittle—about when or what time bees began breeding in the spring—or winter. I thought at the time the dispute a foolish one as location and several things had to do with that action on the part of any colony. I do not profess to know all about this matter, but about 30 years ago I read in "Kretchmer's Bee-Keeper's Guide" that usually in the latitude, say of Iowa, or similar climate, that it was not uncommon to find normal colonies breeding a little in the heart of the cluster in January, the amount increasing as the season advanced and the colony grew stronger; and I think he said most of them should have brood by February. I made examinations in those days, in southwest Iowa, and found just as Mr. K. had described—a small patch of sealed brood in January; then in a climate in which bees seldom got out of their hives in winter, and where the first pollen was gathered about March 1st, usually from soft maple, there is rarely very little flying before that date. Well, since those days, as the years went by, I have seen many colonies with brood in the month of January, even hatching bees.

This is Feb. 14, and today I shifted a colony from one hive to another, comb by comb, and there was sealed brood in 2 combs with a few bees hatching; I should judge there was 50 to 75 square inches of sealed brood in the combs, and I did not look to see how many more of eggs and larvæ. About the first of this month I saw almost as much brood in another colony in a different yard. Within the past 2 weeks I have seen brood in several colonies.

Strong Colonies.

If you will examine you will find that it is the colonies strong in bees and with plenty of stores that are breeding freely so early. Many weak colonies have not yet started any brood; others are just starting. In this climate where there is much sunshine and a minimum of cold winds the strong, direct and undimmed sun rays so warm the hives and atmosphere that bees fly freely. I should guess that with average weather, as we have it here, they will fly more or less half the days of February and March. Last night the thermometer was down to 15 or lower; there has not been a night so far this month that it did not freeze, but in midday it would be from 40 to 60, and March is likely to be much the same, only a little warmer.

Now here is what I wish to teach: With bees flying so much they rapidly decrease in numbers, especially by March. That colony I transferred today that showed so much brood I count as safely wintered, the bees hatching now, and that within the next few days will be sufficient to keep up the forces and maintain heat for such brood as will be reared from this on, and which will be required to do spring foraging. The weaker colonies that are just starting brood will be so few in numbers by early March that it will be almost impossible for them to rear brood at all. For such length of winter as may be found in Nebraska, Iowa, Illinois, Ohio, and similar latitude and conditions, here is what I consider a necessity to safe wintering:

First there must be enough bees in the hive in the fall to make a large cluster, such as will usually occupy about 2-3 of the spaces in a 10-frame hive, and these bees in their prime of life; such will have enough bees in January and February, to start and mature brood which furnishes the life and strength of the colony to withstand the vicissitudes of spring life. To have such colonies the one thing above all others that will get this condition—other conditions being normal—*is a large brood-nest*, and this brood-nest so arranged or provided that the queen is not hampered in her breeding by being crowded with honey. A full discussion of this will come in its proper place: fall is the time to make the colony that will be strong in the spring.

We have weak and strong colonies in the spring as well as at other seasons—that is, in comparison. The poor weaklings in late winter and early spring—it is pitiable to see them struggling to mature enough brood to save the life of the colony; but pity is about all we can do for them; we sigh and hope for steady warm weather until they get on their feet—that is grow strong. If a man has but a few colonies, and can put these weaklings into some warm place where they will never have to endure cold—say in a temperature that would almost mature the brood,—such colonies may become some of the very best in the coming harvest. Do not condemn these queens when their only fault may be that their bees were such good honey-gatherers that they filled up the combs in the fall to the exclusion of the brood they would have put there, which in turn would have been the making of a strong colony in the spring. Very many queens and colonies die in winter and spring, victims of environment.

Clipping Queens.

I will not ask you to consider me authority on this subject. However, I have clipped for about 30 years—of course, I have always had unclipped queens in more or less numbers. I have just stopped to make a mental calculation, and I think it a very conservative estimate to say I have clipped 5000 queens, and I doubt if 10,000 would cover it. I have been over 30 years at it, and some years I clipped several hundred.

Some think it causes supersedure, but I do not. I do not think it makes one iota of difference about superseding, simply the fact of a wing being off. The clipper may so frighten a queen, or by some other way make things go wrong and cause a queen to be killed, then, of course, another one is reared, but that is *not* supersedure. For years I have used the fact of clipped queens to determine their age, together with the record, and, besides, I have been such a crank to open and manipulate colonies that I have had almost unlimited opportunity to discover if the clipped queens were sooner superseded but I have never been able to discover that they were. Very many queens are superseded unbeknown to the apiarist who does not clip and does not make frequent examinations of the colony.

Well-bred queens should be good for 3 full and vigorous seasons of laying, some for the fourth, but some for only 2 seasons. It is scarcely safe to trust a queen after she has produced rousing colonies for two harvests, yet I do trust many of them for the third, but I do it after judging of them after many years of observation. I do not believe I can tell you how to judge if she is capable for a third active season; you will have to get that by observation and practice.

So I clip for two purposes, perhaps the main reason being to keep them from going off with a swarm, if I should be a little late in getting to work the colony. Then I rarely ever allow a swarm hived, either a natural or forced one, without clipping the queen to prevent loss by absconding. When a swarm is hived, if the queen was clipped the previous year, she gets this record: "6—20, S. hived—o. q." If she has not been previously clipped, or if a past season's queen, but recently

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clipped, the record is "6—15 s. hived, clipped." The first two numbers of course are the month and day; the first entry for the colony for that season should be preceded by the year date.

I have given you the main reasons why I clip; now I will tell you when. I do this in the spring whenever I can get sight of the queen. In April or May (or whenever in your locality you can safely handle the bees previous to the honey-flow, and before they get very strong) go through every colony and trim off bur-combs and otherwise slick up things so that the combs will handle very freely without catching and scraping. Every bur-comb and brace-comb should be removed, and this done in the early season before there are many bees to be in the way. Now when doing this work, watch for the queen, and, when found, if her wing is already clipped enter the fact on the record as "o. q." If the colony record shows two consecutive seasons "o. q." she is ready to be put out of commission after that season's crop of bees for the harvest has been produced, unless she shows unusual vitality, when she may wait for the third "o. q.," but lots of them will not be found for the third one, or, if so, will disgust the owner by failing just when he can least afford to have the failure. But do not hunt too long; if not found with reasonable effort or disturbance wait until the next overhauling, when the bur-combs being out of the way, and combs handle so slick and easy, you can locate her without trouble.

For clipping I carry a little pair of scissors in my vest-pocket; they are about as long as my finger, and, when I locate the queen, out comes those scissors, and they follow her until I get a blade under a wing, when off it goes. I don't cut one leg in many hundreds of queens; I think I have never clipped but one leg. I never attempt to catch the queen to clip, except in rare cases, as in swarms, or when she is frightened so I cannot follow her with scissors. Many never are aware when clipped.

Loveland, Colo.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Something in Favor of Black Bees

On page 106, it says that "the blacks are inferior." I agree that they are inferior to Italians in most respects, but not in all.

The German, or black, bees have been our honey-gatherers for over a century, and it is time that we were finding out their merits, if they have any, and they surely have. I say that they have a place in apiculture that the Italians can never fill with the same amount of labor or capital. In the production of a nice article of comb honey they can not be excelled. Also, they can easily be brought up to a non-swarming point and a large comb-honey business operated with but little labor or expense.

It also says, "If, then, an American editor be asked by a beginner as to which is the better bee, he answers, 'The Italian.'" This is true, but it may not be the best bee for the beginner. If he lives in a location where there are no blacks the Italians are the best for him, perhaps; but if his Italian queens are exposed to black drones, they are the worst for him, for their crosses with blacks are furious stingers, and nothing but a veteran bee-keeper, or one toughened to stings, can stand them. It is widely circulated that the Italians are by far the gentlest bees, but we have found this true: There is many a bee-keeper who makes a start in bee-keeping, and, not content with the strain he or his neighbors have, buys some bees of another strain, introduces or sets them down with his others, believing it is the best thing for him from what he has read or heard. Soon his apiary is "fired up," and he is, too, and soon is gone "where the woodbine twineth," so far as bee-keeping is concerned. This has been the case hundreds of times here in the South, and, to some extent, is the cause of the bee and honey industry being as it is here.

There are many bee-keepers who regret that they ever mixed their bees; and, beginners, if your neighbors keep Italians, you start with them; or if your neighbors keep blacks, you start with them until you have mastered enough about bees to keep your stock pure. If your neighbors have hybrids or a mixed race of bees, better start up bee-keeping in some other location, or stand the stings.

I advocate pure stock for the beginner, whatever it may be, or wherever it may be found.

I operate Italians, blacks, and Caucasians for honey, and give credit where it is due. J. J. Wilder.

Crisp Co., Ga., March 9.

☞ I would not do without the American Bee Journal for ten times its cost.—F. L. Day, of Minnesota.

Foul Brood Inspection

At the San Antonio Inspector's meeting, J. M. Rankin said:

"Bee-inspectors are born, not made. It is an easy matter to learn to detect the disease and to effect a cure. Any man of ordinary intelligence can do this, but it is only a small part of bee-inspection. The difficult part lies in handling the bee-keeper, and, without antagonizing him, get him to comply with the law because he sees the advantage it brings him in doing so."

This is true, indeed, and those who have had experience in inspection work well know the difficult parts that had to be "worked" at some time or another. It is, indeed, a difficult task to approach a man who refuses to have his bees inspected, and tact and patience are necessary in handling cases of this kind.

There are bee-keepers, and other bee-keepers, and while some of them are ever ready to assist in the inspection of their apiaries, others can be so stubborn as to make it quite disagreeable for the inspector. It is amusing to me sometimes to think of some of the "scrapes" experienced while inspecting apiaries, and, although in some instances the situations seemed of a very serious nature at the time, yet it may not have been so bad in reality. However, to receive "notes of warning" like those here given, while inspecting in certain districts, would in all likelihood be heeded somewhat by *any* inspector. Here is one:

Mr. Foul Brood Inspector: — I heard you were inspecting the bees of our neighborhood, and am sending you this note of warning to inform you that I will *not* have my bees inspected, and any trespassers will be properly dealt with if a shot-gun has to be resorted to. Respectfully,

— — —.

On another occasion the leading newspaper of the town had the following in one of its columns the next day after arriving on a trip of inspection:

A Note of Warning.

We, the undersigned bee-keepers, having learned that the bees of this section are to be inspected, will make it hot for any foul brood or other inspectors, or would-be and assistant inspectors, trespassing on our premises or bee-yards. (Several Names.)

Such things might have seemed ridiculous to inspectors of some of the other States, but when it is remembered that this happened in "the wild and woolly west" of Texas, it may not seem that way. Of course, ignorance on the part of these men, who were honest in their opinions otherwise, caused them to take such steps. This was made manifest in each case after "the inspector" called around and approached them with a broad smile and a hearty "How do you do," just as if meeting an old friend; *and* as if without any knowledge whatever about the "notes of warning" received.

What an inspector should strive to do in the majority of the "hard cases," is to "bluff right," and overtake the victim by surprise. Have no recollection of the "notes of warning," and he will think you failed to get them before you came. Then talk weather, crops, market prices, and the latest news, and show an interest in "every-

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thing on the place"—his stock is fine, and the cattle, hogs—even the chickens, if the bee-keeper be a farmer also.

Ask for a drink of water, and tell him how you used to be on the farm at one time or another, and by this time, if he has not already invited you to stay for dinner with him, there is your opportunity to ask him something about his honey-prospects and *his bees*. Nine times, if not ten times, out of ten you will gain your point. Most likely dinner will be ready by this time, and it will be proposed by the bee-keeper, of course, that "we'll have dinner first, and then we might take a look at my apiary." Then, of course, he will show you the bees, while "the Mr. Inspector, who got the 'note of warning,' does the rest." See?

It must be remembered, however, that not all cases can be "handled" alike, and one manner of approaching a bee-keeper who does not want the inspector on his place, may succeed with one and not with another. If possible, study your subject, and then plan your "attack" accordingly; and if the plans are the right ones, the battle is easily won.

Such is the more difficult part of bee-inspection.

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister's Experience in Folding Sections

DEAR MISS WILSON:—One day I noticed an invitation to bee-keeping sisters to "rise in meetin'" and tell their experiences. So I thought I would begin mine at the beginning, and if you consider me at all interesting, I will tell you several things that happened. I can not give any learned or scientific papers on "Why is a bee?" but for plain, every-day facts, I can tell a few.

The way I became interested in bees was one day papa said, "I need section-boxes very much, and I don't see how I will find the time to make them." I said, "I'll make 'em." Papa thought it over, and finally concluded I might. So he showed me just how to proceed.

The boxes were in two pieces, and I laid quite a bunch across a pan, and poured hot water into the grooves with a spoon, always having one bunch soaking while I made up those previously soaked. Picking up a piece I took hold of both ends and carefully bent it into shape, holding it with my left hand. I laid the short piece into place, and with a light blow from a tack-hammer, it slipped into the notches on one end. Then I fixed the other end. Of course, it sometimes happened that it did not work smoothly, but I got along very nicely, so papa offered me 10 cents per hundred for all I would make. He generally told me several days in advance how many to make.

Well, one day I wanted some extra money, and I decided to earn it by making boxes. There being no one at home, I pitched in. I took my materials on the rear porch, which, by the way, was not large. I worked faithfully, and when mamma came home I had the porch piled so full of boxes she could not get indoors. Of course, she made me stop and carry them to the basement where papa had his workshop. There were something like 700 made up, so I piled them up on the work-bench, putting what was left in wash-tubs and anything else that would hold them. When papa came home and saw the mess, he said the market was overstocked, likewise his work-bench; and not only was the price cut in half, but I must work overtime and clear off his bench, so he could fix supers to put the boxes in.

I filled everything I could find with boxes, and thought I was done with them, but, oh dear! I had completely forgotten wash-day, so the next day I moved those boxes again, but this time I *strung* them, putting 50 or more on each cord, and hung the cord over nails driven in the joists. Yes, and every time any one went to the cellar for anything, he or she was sure to "butt into" those boxes, and from the dark and stilly depths would come something that sounded suspiciously like "confound it," or "doggone it."

That was the beginning of my bee-business, and I have never been out of it since. Some time, perhaps, I'll tell you how I *used to* hive swarms.

SISTER ESPERANZA.

I think your papa was very generous to give you 10 cents per hundred for making boxes—yes, or half that price. Would it not be economy to adopt the one-piece sections and get a machine to make them?

Let us hear from you again.

A Texas Sister Wins Success—Bee-Veils

In the American Bee-Keeper Mrs. A. E. St. Leger, of Wooster, Tex., says, under date of Oct. 18, 1906:

By this time, I suspect, many colonies have gone into winter quarters in the North, while here the bees are working, carrying in big loads of pollen, filling the combs with honey and humming as if it were spring.

Two weeks ago, while standing under an elm-tree, I thought there must be a swarm on an upper limb, but there were bees about all the elms, and I discovered that they were in bloom. The prairie is bright with flowers, and my bees have given me more honey than ever before—such beautiful amber-colored honey, all nicely capped.

Many times I feared my pets would have to be given up, as my husband (who is in poor health, and for whose benefit we moved to the country, he giving up his practise as physician) would get so nervous every time I went near the hives; but little by little he overcame his fear when he found I did not get stung; and this spring he was so interested in them himself that he helped me a great deal. I was delighted, for this year I have been able to work without him begging me to "come away."

RICE BOBINET BEE-VEIL.

I wonder if any of the bee-keepers have tried the rice bobinet for veils. It is so much stiffer than other kinds, and stays stiff. After making the veil with an elastic band for the hat, and one in the lower hem, I stitch about 6 inches of broad elastic on the latter at the back. Opposite the underarm it has a loop at the end of tape. After drawing the broad elastic forward, the loop is slipped over a button stitched on the front lower hem. It is so easy to fix, and the veil is held in place.

MRS. A. E. ST. LEGER.

It is a turning of the tables as compared with the usual way, to have one of the lords of creation become interested in bee-keeping so as to play "second fiddle" to one of the sisters. Mrs. St. Leger is to be congratulated, and it is to be hoped that bee-keeping may prove so favorable to her husband's health that he may become an equal partner.

Mrs. St. Leger's plan of making a veil seems to be good. The favored bee-veil in this locality is made after this fashion:

One end of the veil is sewed firmly to the outer brim of the hat (of course, an elastic to slip over the hat may be used if preferred); this keeps the veil smooth, avoiding wrinkles in front of the face. An elastic cord is run in the lower hem. A safety-pin is caught through the hem in the front, taking in the elastic cord. This is always left hanging in the veil, then when hat and veil are on, all that is needed is to pull the elastic down until taut—not only taut, but stretched until *very tight*—and then to fasten the safety-pin to keep it so. If a rigid cord were used instead of an elastic, when the body was bent it would become slack and allow bees to pass under, but if the elastic is drawn down *tight enough* no bee can get under, no matter what change is made in the position of the body. Nothing can be simpler as a fastening, and it is perfectly safe. Try it.

Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3¾ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

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Conducted by J. L. Byer, Markham, Ont.

Pollen from Clover

See here, Mr. Hasty, you are (page 152) altogether too severe on the author of those pretty verses on page 29. While he is accused of indulging in too much "*poetic* license" (if I dare to use the phrase), I would say that you are indulging in considerable "prosaic license," in making the assertions you do. Here in Ontario, not a few, but fully 50 percent of the bees, *in some seasons*, gather pollen from clover. Last year fully more than that number would have pollen when they came to the hives. True, this is not a good sign that the clover is yielding much honey, but that does not change the situation any.

As to bees not dying "(except by violence) with pollen on their legs," why, dozens of times I have noticed bees with small pellets of pollen crawling aimlessly around among the blossoms, and often found others in a position as described by the writer of the verses in question—

"Under a large head o'er hanging
A little dead bee I found."

Then, again, it is not said that the pollen is "golden" in color—

"Full were her bags with the gold,"

can mean in figurative language, honey; or the term "gold" can be used as signifying the value of the pollen, if we choose to couple it with the latter commodity.

Please, Mr. Hasty, put on your thinking cap, and see if you do not recollect ever seeing a dead bee in the clover having pollen attached to it.

Making One's Own Hives

While I am at it, I want to mention something in which I do agree with Mr. Hasty more heartily. On page 132 he refers to the habit of some bee-keepers (the habit is not confined to the bee-keeping fraternity, either) who vote all others who can not see as they do, or make a success with plans advocated and put into practise by themselves, as being stupid or ignorant. A case in point:

Not long ago certain men were discussing factory *vs.* home-made hives. One writer claimed that all bee-keepers were not capable of making their own hives; whereupon the other retorted with language in effect, that such people should not keep bees. I happen to be one who would come under the ban, and yet, even if it is the case, as I often jokingly assert, that I can not nail two boards together true, I would ask whose business is it, anyway, if I choose to keep bees for a living, and at the same time refrain from doing anything that would be a menace to the industry?

Some people are constantly fretting and bewailing the shortcomings of other poor mortals, when, the chances are, if they looked closely enough for defects in their own make-up, they would find work enough to engage their present attention without going to the trouble of putting strictures on others and saying, "Do as I do, or else get out of the business."

Why Does Honey Granulate?

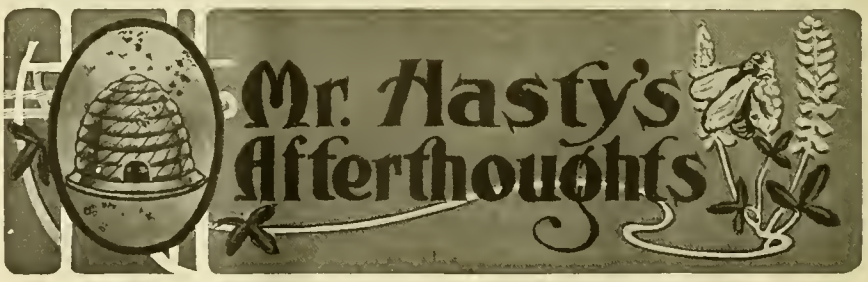
There is room yet for scientific work towards determining just why honey granulates so quickly sometimes, and at other times can not be induced to granulate at all. Some 7 years ago we had a tank of 500 pounds of honey, that was being kept for home use. It was kept in a small building, single-boarded, and no protection was given whatever towards keeping out the cold. As it showed no signs of granulating during the fall months, through pressure of other work the matter was neglected till cold weather. But we didn't use much of *that* honey that winter, for the simple reason that it could not be gotten out of the tank during the cold weather. It would stick and hang to a spoon or other implement just like the thickest of taffy, and it was worth all you could get to pay for the work.

When spring came it would run slowly from the tap, but it never offered to granulate, although some of it was not used for nearly two years.

That same year Mr. D. W. Heise, of Bethesda, Ont., had a 600-pound tank of clover honey that acted very peculiarly. During October the lower half of the honey in the tank granulated solid, but the rest remained liquid, and as clear as crystal. Samples were sent to Prof. Shutt, of Ottawa, for analysis, and he reported that the dextrose and levulose had separated. Both the granulated and liquid samples were of good body and splendid flavor, the liquid portion being especially *mild*, resembling alfalfa honey a great deal. Only a few days ago I met Mr. Heise, and he reports that he has some of that honey yet, and to date there have been no signs of granulation.

While I do not know why some honey granulates and some does not, yet I do know that all the honey I have ever seen that *did nol* granulate has invariably been well ripened on the hive, and has always been honey of the very best quality.

While granulation no doubt is, as claimed, a proof of purity, yet it is well to be suspicious of honey that granulates very early in the season. Of course, there are exceptions, but, as a rule, you will find that if clover or basswood honey granulates quite early, said honey is pretty sure to have been extracted in an unripe condition.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Pollen—Bees and Fruit.

On pages 109 and 110, C. P. Dadant has an excellent article on pollen, bees and fruit. As I once spent a good deal of time examining different sorts of pollen with the microscope, I'll venture to "hold up" one of his statements about pollen. The non-microscopic reader would infer that *all* pollen-grain were shaped like little osage oranges. There is a very great variety in the shapes. Also, there is a great range of sizes. The sphere with rough surface is not even the commonest form. The shape of a grain of wheat (with crease down one side all natural as life) turned up oftenest in my observations. High power of microscope may be used to make out markings and details; but mere general outlines require but small power. In fact, my mind is (although my memory may be giving me away on that) that sharp eyes without the glass can faintly make out hollyhock and tiger-lily pollens. These, and a few others, are in the Jumbo class for size. Hollyhock is a perfect shape, yellow, and covered thickly with stubbed spurs or straight thorns. Tiger-lily is kidney-like both in shape

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and color. The very irregular shape of raisins just dug out of a pressed cake of raisins is often met; but I think that most of these, with time and warmth and moisture, will expand into some definite shape.

And Mr. D. is hardly at his best when he intimates that a scoopfull of bees made to hang on a bunch of grapes is any fair representative of a cluster that forms there themselves, knowing what they are after. (He says "any of my readers can try this.") Only a few times in a dozen years is there—for the most of us—a chance to try any such thing.

Testing Thermometers.

Tell "Wisconsin" to *test* his wandering thermometers. Put a wash-dish of water out in the cold till it freezes over lightly. (Don't trust water with more or less ice floating in it.) Put in your thermometers, and quite possibly one of the lot will prove to be right—reading 32 degrees, or nearly that. If not, choose the most convenient one and note how many degrees wrong it is. Say it reads 29 degrees when it ought to read 32 degrees. As the further aberration in the course of 13 degrees can not be very large, assume that it will read 42 degrees when it ought to read 45 degrees. I take it that careless workmen at marking thermometers let their freezing water get too warm and their boiling water too cold. Also, I guess they twist the tops when not hot enough; so no real sealing takes place. The result of this last is that the fluid in the tube slowly evaporates out; and the thermometer comes after a while to read much too low. Page 115.

Those Winter Drones.

F. Dundas Todd does very well for a beginner in trying to account for his winter drones. I'll add the guess that the bees were queenless when the drones were reared. Possibly the queen laid a few eggs and then died off. Thereupon the bees developed the eggs for what they were worth, drone-eggs to drones, and if there were any worker-eggs, tried to rear a queen from one. Page 117.

A Hive-Rifling Bear that Was Rifled

Bully for the bear! He lies in state amid the evidences of his prowess, and gives us the visible evidence of his bigness. He is a Samson resting his head on the ruins he has made. What a pity "Teddy" could not have been presented with a chance to kill such a whopper! Five rifles bear mute testimony to the force considered appropriate to send against him. Page 121.

T-Super Discussion.

Mr. Greiner's earnest hit-him-again forninst the T-super is sufficient to account for a smile or two. His charity is great—great enough to think the propolis of Marengo is greasy in its nature—not sticky like the rest of us have to agonize with. It slips right off when it sees Miss Wilson press her teeth together and go for it! And 500 a day, more or less, will satisfy Mr. Greiner as a day's scraping. (There, that gives me some sort of a sight.)

And it seems from a closing remark of his that there are among us tomtinkers of the 33d degree that try to press honey into shape when somewhat out of square. Don't? Well, if advice has any impression on that sort of chaps, I'll say don't, also. Page 127.

First Apiary in the South.

So a "claim is filed" for the honor of first apiary in the far South. Place on the Savannah River; time a little over a hundred years ago; and keeper the elder Wilder. Very good till somebody can ante-date it. The fact that he could hear of no bees, and therefore sent across the ocean for some—that fact weighs much heavier for those early days than it would now. Now we hardly know what our next neighbor has, or has not. That Indian who had never seen bees before, very likely thought the hive was a *contrivance* of the white man's to defend his premises in his absence. Page 129.

Is There Honesty Among Bees?

It sounds nice to say "honest bee"—who wouldn't increase the size of his rose by suppressing the buds of other people's roses—but how about the accuracy and truth of it, dear Boss? In hot weather with no honey-flow, and lots of idle bees out, whoever saw any signs of honesty among them?

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Some Varieties of Bees

Describe the Golden, Carniolan, and Caucasian bees. Also, which is the best variety? What was the origin of the Goldens and the Carniolans? Iowa.

Answer.—The standard Italian bee has 3 yellow bands. In this country these bands have been increased by selection to 5, and such bees are called "Goldens." Carniolans are brought from Carniola in Austria. At a hasty glance they might be taken for black bees, but have a brighter look because they have a whitish plumage on the edges of the abdominal segments. Caucasians have somewhat the look of Carniolans or blacks. Dr. D. E. Lyon says: "The bands which, in my strain of Caucasians are so distinct, are of the pronounced light gray, which, with the slight shade of orange on the abdomen, make it easy to tell these bees from the blacks." Prof. Frank Benton says: "The dark color is of a peculiar dull leaden gray, and gives the bees a very ringed appearance. You have doubtless noticed Carniolans or blacks which have fallen into water-troughs, crept out, and become partially dried. These might be taken to resemble in color the Caucasian workers, as you will notice that the dark rings around the body show more distinctly when the fuzz is dampened."

There are advocates for each, and it would be hard to say which of the 3 is best. What might be best for one might not always be best for another. The majority of bee-keepers probably prefer Italians to any of the others.

Doubled Colonies—Moving Bees—Queen-Excluders, Etc.

1. I have 8 colonies. I doubled up late last fall and failed to break the comb in the upper hive so that the bees could carry the honey to the lower hive. So I set one on top of the other. They are in 8 frame hives. I wintered them in a house 6x10 feet in size, 2 feet between walls, with sawdust between the walls, and with double doors. I prefer to confine them to the lower hive, or will the queen lay in both hives?

2. What do you call "shook swarming?"

3. I have 12 colonies 2 miles distant at a neighbor's. When will be the best time to move them—before snow goes off, or should I wait until willow blossoms?

4. Will it pay me to get an extractor for 20 colonies?

5. I want to run more for extracted honey. How many bee-escapes will I have to have?

6. Are not queen-excluders a hindrance to bees, or will I have to get some excluders? If so, how many?

7. What is the "Dongolian" bee? Is it a good honey-gatherer? I have the Italian.

I am in a good location. It is timber country. Clover does well here, also alfalfa, alsike, and white clover. Minnesota.

Answers.—1. If you merely set one hive on the other, you may find the bees all in the lower story, or you may find them all in the upper story, and it is possible that you may find the 2 colonies still separate, each one in its own story. If strong enough, the queen will lay in both stories. If you want to confine the queen to the lower story, you must use an excluder, first finding the queen to make sure she is below. Or, if you don't want to look for the queen, brush all the bees from the upper combs into the lower story, put an excluder over, and then the upper story of combs without any bees.

2. "Shook swarming" is bad English that has, I am sorry to say, grown into quite common use in place of "shaken swarms" or "shake-swarming." Perhaps a more appropriate name would be one used in Germany, "anticipatory swarming." A little before you think a colony will swarm you take the matter into your own hands, and take away from the colony all its frames of brood, putting them elsewhere with only enough bees to be sure the brood will not chill. That leaves, as you will see, on the old stand, the same as a swarm with the old queen, only it will be stronger than the natural swarm would have been.

When the distance is as much as 2 miles, it

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matters little when they are moved, up to fruit-bloom. A mile or less would be better earlier.

4. Yes, or for 3, especially if you expect to increase.

5. Many do not use escapes at all in running for extracted honey. If you make the experiment with 1 or 2 at first, you can better tell how many you want, if any.

6. While it is generally thought best to use excluders for extracted honey, some do not use them, such prominent men as C. P. Dadant and E. D. Townsend being of the number. The latter says that by giving additional supers always on top he has no need for excluders. If you find it is better to use them, you will need one for each colony.

7. I know nothing about Dongolian bees. If you have good Italians you needn't worry.

Comparison of Sections—Drone-Comb

1. Under ordinary conditions will 4¼x4¼x1⅞ inch sections contain as much honey when used without separators as 4¼x4¼x1⅞ inch sections when used with separators?

2. Do you advise cutting out all drone-comb in the brood-chamber in spring?

3. Will bees repair the damaged comb with worker-comb? IOWA.

ANSWERS.—1. A fair way to decide would be to try the two side by side in the same super. I have never tried that, but we ought to approximate the right answer by a little figuring. Under ordinary conditions the bees leave a space of about ¼ inch between 2 filled sections, and the same space between the face of a section and the adjoining separator. According to that, a 1⅞ section without separator ought to produce a comb 1⅛ inches thick, and a 1⅞ section with separator ought to produce a comb 1⅜ inches thick; thus making the first 1-11 heavier than the second.

2 and 3. If you cut out either drone or worker-comb, or if in any way there is a hole to be filled up by the bees, they are pretty sure to fill it with drone-brood; so there's no use in cutting out drone-comb and allowing the bees to fill it afresh with the same kind of comb. My advice would be to cut out the drone-comb and at the same time fill the holes with worker-comb or worker-foundation.

The "Dovetailed" Hive

What is a "dovetailed hive?" I notice that a number of hives are made with what is commonly understood in bee-keeping as the "dovetailed" corner, although it is not a true dovetail, according to the dictionary definition of the word. ILLINOIS.

ANSWER.—I'm not sure I know enough to answer your question in a satisfactory manner. It would be easy to say, "I don't know what a dovetailed hive is; look at the catalogs and see;" but I think I do know a little about what a dovetailed hive is, only it isn't the easiest thing in the world to write definitions. But I'll brace myself and try:

A dovetailed hive is one that has no dovetailing about it, but its corners are fastened with what would commonly be called square tenons, lock-cornered or fingered; it has frames 17⅜x9⅛, outside measure; any hive coming under this description is a dovetailed hive, provided it has no other name. Mind you, though, I'm not to be held liable for any damage that may occur from any incorrectness in the foregoing description. I might consult a number of the catalogs, and try to make out from them more clearly just what a dovetailed hive is; but I don't want to do that, for I don't want to get myself so muddled that I'll be standing on my head the rest of the day.

Next thing you'll be firing at me a question to this effect: "Why is it that any one ever did such a thing as to call a hive a 'dovetailed hive' when it's not dovetailed, and when the part that's called dovetailed is found equally on almost any other hive that's not called dovetailed?" Please don't insist on an answer to that question; I don't know. It's an unfortunate name, but I didn't make it, and it has come into such general use that it's hardly likely it will now be changed. "John White" may not be the most appropriate name for a negro; but if it's his name, why it's his name, and that's all there is about it. But there's no law against your trying to get up a better name—I mean for the hive, not for John White. And say, before we part, allow me to ask you a question: What would you suggest as a better name for the hive that is now called "dovetailed hive?" If you want to think over it, just send your answer by mail.

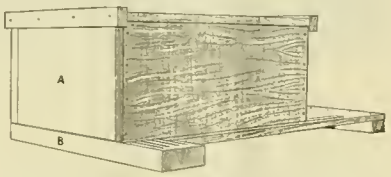
"Hansen Ventilator"—Alexander Feeder

1. Where can one procure a "Hansen Ventilator?"

2. If I have a correct idea of the Alexander feeder, it is used under the bottom-board of the hive. How do the bees get access to the feed? IOWA.

ANSWERS.—1. I have seen it mentioned in print I think once, but have never seen any description, so far as I remember, and do not know where it is to be obtained.

2. The feeder is, so to speak, part of the bottom-board, at the back end of the hive, on



the plan of the simplicity feeder, so the bees come directly down from the frames into the feeder.

Getting Straight Combs—Hive-Covers—Races of Bees

We have had a fine winter, the snow is about 4 inches deep at present, and the coldest weather was about 26 degrees below zero. Our bees are in the cellar, and seem to be doing nicely. I have 6 colonies—2 in box-hives and 4 new colonies from last season in Langstroth hives, but as we neglected to put foundation in *all* the frames, the bees soon made immovable-frame hives out of all but the last one. Now we want all these on straight combs, as soon as practicable, and expect to transfer the bees in the boxes by means of the Heddon method during fruit-bloom.

1. The box hives have only one opening (the entrance), so that when turned wrong side up and a box set on top of the hive to catch the bees when they are drummed out, how are the bees to get into the box on top?

2. What will be the best way to get the other colonies on straight combs?

3. Will an empty hive with wired frames of foundation be safe if left "standing around any old place."

4. What kind of hive-cover do you prefer?

5. What do you think of the "Colorado" cover?

6. Which race of bees do you think best for this locality, or for any place in this latitude?

7. Are Carniolans as good as Italians, in your estimation?

8. What about Mr. Byer's idea of the blacks being as good as Italians? or are we beginners simply to overlook such talk as that? IOWA.

ANSWERS.—1. Turn the hive upside down and with a cold-chisel pry off the bottom just as if no bees were in the hive; the only difference being that you will have to use enough smoke to subdue the bees and keep them out of the way. You will have less trouble with bees in the way if you allow the bees to swarm (of course hiving the swarm in a movable-frame hive, setting this on the old stand with the old hive close to it, and 8 days later moving the old hive to a new stand), and cut the combs out of the old hive 21 days later. That's the up-to-date method in England now, and they do more transferring there than here.

2. Hard to tell that without seeing them. It may be that they are not very bad, and that by a little cutting apart you can get the combs out, straightening each one into its own frame, and cutting out entirely any that can not be otherwise coaxed into place. If you can not do that, and even if you can, you may take a hand-saw and cut down so as to sever all comb attached to the sides of the hive. Turn the whole upside down, and it may be that by a little bumping the whole contents will fall out of the hive and you will lift it off. Perhaps, however, the bees have built combs so as to fasten the frames to the ends of the hive. Pry off the hive-bottom if it is nailed on, and with the saw separate everything from the ends. Then you have full chance to cut the combs out of the frames or do whatever may be needed.

3. Almost entirely safe in this locality. In warmer localities it might not be so safe, but with occasional looking-after there would be little danger.

4. The best I have found yet is a double cover with a ⅜-inch space between upper and lower parts, and covered with tin or zinc. The objection is that they cost 25 or 30 cents apiece. But the cover is the last thing about a hive to economize upon.

5. It's a good cover.

6. All in all, it is pretty safe to tie to the Italians.

7. Taken as a whole, probably not.

8. Quite a number of level-headed men are to be found among those Kanuck bee-keepers, and J. L. Byer is one of them. He may be right in saying that if as much pains had been taken with blacks as with Italians, the blacks would be as good as the Italians. But the pains has *not* been taken, and the average black is behind. He has mixed blood, and he says he is in no hurry to change it. Maybe he will continue in that mind; maybe he won't.

Reports and Experiences

Hard Year on Beginners

This has been a hard year on beginners. I had 14 colonies and there were only 4 that I got any surplus from, and I had to feed some of them in the fall to keep them from starving. It has been too warm this winter for bees to do well—they have worked nearly every day. They have brought in pollen every month during the winter, but they consumed a lot of honey.

While it has been discouraging to the beginner, you will find enclosed $1.00 to have my subscription renewed for the "Old Reliable," as I can't keep bees without it.

Deport, Tex., Feb. 26. C. B. MCDANIEL.

Tests of Purity in Bees

As I am a lover of peace, and a very busy man, I seldom dispute any man's statement, but pages 137 and 138 contain an item that can not pass unchallenged. That writer has pasted up his ignorance for a target for queen-breeders to shoot at. He evidently thinks that a queen must cost a big price to be worth having. He says he is satisfied that those cheap queens advertised are mongrels or worthless.

Now I advertise cheap queens, and I am satisfied that he does not know what he is talking about. If he did, he would talk less.

Then, he attempts to tell us what a tested

American Bee Journal

queen is. I don't believe he ever saw an imported Italian queen and her colony of workers and drones. Any man who knows anything about bees knows that Italian queens are not all bright yellow. Neither do all Italian drones have 4 yellow bands. We all know that pure Italian drones vary in color from a yellow copper color to nearly black. So our New Yorker wants 4 yellow bands on drones and 3 on workers.

Now, Mr. New Yorker, if you can test a queen by her drones only, you can do more than most bee-keepers. You say a pure Italian queen is bright yellow; her drones and workers are marked just like her. But just before, you say her drones have 4 yellow bands and her workers 3. How is this?

Well, if some breeder should send our New Yorker a Texas yellow wasp marked "Italian," I doubt if he could tell whether it were a tested Italian queen or a cheap mongrel.

Uvalde Co., Tex. GRANT ANDERSON.

Bees Stealing Pollen

We are having a cold winter, but my bees don't know it. I have 71 colonies in the cellar under the kitchen.

I have never read of bees robbing pollen, but had such a case last summer. The robber-bees would stay outside on the alighting-board, and as a bee loaded with pollen would alight it would run against her and cause her to lose part of her load, which it would gather up and carry away. While this would cause but little damage to the colony, it shows a reasoning power which can hardly be called instinct. T. PROCTOR OTIS.

Coaticook, Que., Feb. 17.

Bee-Keeping in Central and Northwest Arkansas

Twenty years ago I located in Pope Co., Ark., near the central part of the State, north of the Arkansas River. About one-fourth of the inhabitants there had bees—some pure Italians, some hybrids, and a few blacks. I found no bee books, papers, nor professional apiarists to instruct them; still they were comparatively successful. It was certainly a good bee-country, and their bees swarmed a great deal. Those men could transfer, make "artificial swarms," and introduce queens. Their hives were made by carpenters in the pine lumber mills that were numerous all over that country. They were made of soft yellow pine, very porous, and the planks were sawed 1½ inches thick, probably were 1¼ inches thick when run through a planer. Those hives resembled the Dadant style, and were made *well*. I never saw a section-honey box used. They all produced comb honey in the full size frames which they cut out, saving no comb, and trusting to the bees to make more.

Those bee-men never bothered about selling honey, and never tried to make it a financial income, as they were all "well-to-do" cotton-raisers, who had sufficient means to live easy, and did not regard the "apiary" sufficiently important to bother about selling queens, joining a "bee-society," nor subscribing for a bee-paper. Still, several of those men had "bee-orchards" (almost all had their hives in apple or peach orchards) as large, and some a great deal larger than several of our apiarists who write and illustrate for our leading bee-papers.

There are a great many bees in Arkansas, but those quiet, conservative, soft-talking Southerners do not "blow" about it. They are among the best men in the world. There is no deceit nor hypocrisy about them, and in their saber-slashed, bullet-pierced thorax beats a magnanimous heart.

Bees in that locality gathered their honey from various flowers that bloomed in profusion along the water-courses and in the fields. Cotton-blossoms furnish a great deal of excellent honey, and the theory that it "explodes" or ferments is all bosh. It makes an excellent, rich honey, oily, but by some it is not liked so well until they get used to it. Most of the honey is flavored with peach and apple blossom, and with the aroma of the famous muskadine, which surpasses *all the known* flavors. You can smell an apiary where bees use the syrup that exudes from the ripened fruit a half mile on a damp, still day. The wax is very nice—more oily than the wax in the North, as it contains more or less cotton-oil, and is more easily "broken down" in warm weather.

Well, I joined in with those fellows in the bee-business. I bought 12 colonies (hybrids), and with an old-style knowledge of bees obtained from my father, who had his whole apple orchard filled with hives, I began with "A B C of Bee-Culture" as a guide. I did *well*, although I never trusted enough in my own skill to run into the full details of queen-rearing by nuclei, nor uniting "fall swarms." I could divide in the spring, and feed and exchange brood-combs, and speedily build up weak colonies. I reared my own queens in strong colonies dequeened for the business, and I inserted cells, mostly. Sometimes I inserted queens without trouble. My apiary became so large, and as I never tried to sell my honey, I gave it away! I am a physician, and my practise became so great in that malarial country that I could not be bothered with bees. My experience with bees there was for about 7 years. Of course, that was some time ago, and I am informed that the people have advanced "out of sight" in the mode of handling bees. I hope so, at least. I am now located in one of the most beautiful "spots in Dixie"—oh, so lovely! I wish that Mr. Doolittle could see those beautiful springs, parks, orchards, lakes, bluffs, and valleys all in bloom with almost every kind of flower that *can* bloom on this mundane sphere, interspersed with grapes, strawberries, blackberries, raspberries, pears, apples, peaches, buckwheat, and clover. My "bee-brothers" will see that I can not help doing well here with bees. I have just begun, having bought up a few colonies over the country and have not moved them home yet. I am going to be *nice* this time and "put on style" with my hives. I will use 2 Jumbo with half supers. I will describe the *modus operandi* in my next article, and will also tell of the "bee-men" and "bee-women," and also their bees and their mode of management. An "old maid" near me has sent for me to help her with her bees—and I must go and help her—provided my wife doesn't see me!

JULES BELKNAP, M. D.

Sulphur Springs, Ark.

Laying Workers, Introducing Queens, Etc.

Last fall I put some colonies of bees into the cellar. They had not a great deal of honey, so I took a tin pan 4x9 inches and 3 inches deep, filled it with the best white sugar, turned on enough cold water to moisten it all, and the next morning I had a fine block of sugar. I gave each colony a block, and they are all alive now.

TREATMENT OF LAYING WORKERS.

Give them a good whiff of sulphur. In 1906 I had 3 laying worker colonies. I gave one colony a queen-cell, but after the young queen had mated with the drone they killed the queen; 2d, I sprinkled them with sweetened water and oil of peppermint. Next I saw drone-layers on the ground.

HOW TO INTRODUCE QUEENS.

Take off the honey-board; capture the old queen; place the new queen in a wire cage 4 inches long and 1 inch wide; fit a wooden plug into the end of the cage; bore with a ⅝-inch bit in the end of each plug ½ inch. Fill the holes with sugar and honey. Mix not too soft to daub the queen. Don't give any nurse-bees. Place the cage in the center of the cluster of bees. Let it lie between 2 top-bars. If there is any sealed honey press the wire into the comb and let it stay 48 hours. In the evening, after the 48 hours, mix ½ teacupful of honey and water. Don't make it sticky. Blow smoke on top and below. Then sprinkle the bees with the mixture and give them time to fill themselves. When they commence to hum blow a little more smoke on them; free the queen; close the hive, and don't disturb them. Place a shallow box under the hive-entrance, and then if they destroy the queen you can see her.

Bergen, N. Y., Feb. 20. E. TUCKER.

70 Colonies of Bees For Sale Cheap

In large quantities, $3.00 per colony, and $3.50 in small lots. The bees are in 10-frame Langstroth hives, and in excellent condition.

13A4t G. PROCHNOW, Mayville, Wis.

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DOVETAILED HIVES,

Sections, etc. I sell Marshfield Mfg. Co.'s and Root's SUPPLIES at factory prices. 8 frame, 1⅛-story, $1.35; 10-frame, $1.50; No. 1 Sections, $4; No. 2, $3.50. Send for 48-page price-list if you haven't one. With an order amounting to $15 or over I give 7 percent discount till May 10.

S. D. BUELL, Union City, Mich.

13A2t Please mention the Bee Journal.

Standard-Bred Queens

Reared from Imported and Home-Bred Caucasian, Carniolan, Hall's Superior Goldens, and Leather-Colored Italian Breeders. Their bees are honey-getters. Untested Queens, $1; 6, $5; 12, $9. Select untested, $1.25; 6, $6; 12, $10. Tested, $1.50; select, $2.50; best, $5. List free. T. S. HALL.

11D8t JASPER, Pickens Co., GA.

Queens By uniting swarms from 1000 colonies Supplies

I sell queens at—1 queen, 25c; doz., $3. Also following supplies at ½ Root's prices: 1000 P. & L. fences; 1000 plain section-holders; 1000 4¼x4¼ plain sections; Daisy foundation fastener; 10-inch foundation mill; 200 10-frame wood-zincs; 2 doz. Porter escapes; 500 Hoffman frames. R. M. SPENCER,

4A16t Nordhoff, Cal.

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Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c, or $8 a doz.; Tested, $1, or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them. We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

J. W. TAYLOR & SON

13A10t BEEVILLE, Bee Co., TEXAS.

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ARTHUR STANLEY, Dixon, Ill.

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ARTHUR RATTRAY, Almont, Mich.

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9D18t Please mention the Bee Journal.

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CONVENTION NOTICES.

Texas.—The Northern Texas Bee-Keepers' Association will hold its annual meeting at Ladonia, Tex., on April 3 and 4, 1907. All bee-keepers are invited to attend. No hotel bills to pay. W. H. WHITE, Sec.
Blossom, Tex.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual convention at East Jordan, Mich., on April 10 and 11, 1907. Headquarters will be at the Russell House, where a $1.00 per day rate has been secured. IRA D. BARTLETT, Sec.
East Jordan, Mich.

Connecticut.—The 16th annual convention of the Connecticut Bee-Keepers' Associaaion will be held in the State Capitol, Hartford, room 50, on Saturday, April 6, 1907. We believe that every wide-awake apiarist in the State knows that our Association is unselfishly seeking to assist and protect the bee-keepers in every way possible. During the past few months apiculture has probably been more generally discussed than at any other period in the history of the State, because of our attempt to secure proper bee-disease legislation. Bee-keeping now, as never before, is regarded as an important agricultural industry in Connecticut, and our Assaciation proposes to continue its campaign of education. A lengthy program has been prepared for the next meeting, and it is expected that several noted speakers will be present. Every bee-keeper is cordially invited to attend. Please bring choice samples of honey, or anything of interest, for the apiarian exhibit. Membership in the Association is but 50 cents a year. We want 500 new members. Please make remittances to the undersigned before the date of the meeting, and be sure to come yourself. J. ARTHUR SMITH, Sec.
Box 38, Hartford, Conn.

Utah.—The Utah Bee-Keepers' Association will hold its spring convention in the Mayor's office in the City and County Building, April 5, at 10 a.m. A revision of the bee-protection law, reports on the smelter settlement, and other questions of interest will be taken up. All are cordially invited.
E. S. LOVESY, Pres. A. FAWSON, Sec.

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(Name and Address on one side—Three Bees on the other side.)

Worker

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

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How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

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This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

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What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Mr. Beeman, what do you get for Your Money?

That's the question to consider when buying your bee-supplies?

Simply because you have bought from some other firm for years and years, and because you perhaps think that you are satisfied is no reason why you should not look around to see if you can't buy from a better firm.

You don't know what satisfaction is until you get it.

By a better firm we mean a firm selling better goods in better packages, giving better service; a firm who can and will do not only better by you than the concern you have been doing business with, but who will do the best of them all.

"I bought 50 Lewis hives from a fellow in our town last year, and I never saw nicer, whiter, better-fitting bee-hives in all my life. I have always bought my supplies from ———— so I had no idea you made such fine goods until I stumbled onto them by mistake. Now I want Lewis Beeware and nothing else."

The above is only a sample of what bee-keepers think and have to say about Lewis goods. Thousands of our customers come to us in just this way.

They come to stay.

Now, we are going to ask you to buy just 5 Lewis hives and 500 Lewis sections—even less, if you do not care to run that risk—just to see what they are. We leave the decision entirely with you. If after getting a sample you are not convinced that Lewis goods are the goods for you—we don't ask your business. That's fair, isn't it?

AGENTS EVERYWHERE

G. B. LEWIS COMPANY

WATERTOWN, WIS.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The
American Bee-Keeper
for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of BEE-SUPPLIES OF ALL KINDS.

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]

Headquarters for Bee-Supplies

ROOT'S GOODS

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ... OHIO ...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Mar. 11.—The comb honey market has been quite active in the last two weeks, and the continual cold weather has kept things moving. Many cheap lots have been sent in from the producers, which have had a tendency to bear on the market and weaken the prices somewhat. Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted honey, 7@8c; light amber, 6@7c. Beeswax very firm, 32c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7½@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Mar. 11.—There is very little demand for extracted honey at this writing, which is only natural, owing to the unsettled weather at this time of the year. However, we are looking forward with interest to a revival of trade, as soon as the warm spring days are here. We quote amber extracted honey in barrels at 6½@7½c, the price depending upon the quantity purchased. Fancy table honey in crates of two 60-lb. cans each, at 8@9c. There is little demand for comb honey owing to the lateness of the season. Choice yellow beeswax, 32@35c, delivered here.

THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, March 6.—The market on comb honey has been quite brisk the past week. Entirely sold out of fancy white. No. 2 is selling for 12½@13c. White clover extracted in cans, 9c; amber in barrels, 6c. Beeswax, 30c, delivered here. C. H. W. WEBER.

KANSAS CITY, Mar. 4—The demand for comb honey is only fair at present. The market is almost entirely bare of extracted honey. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted honey, white, per pound, 8@10c; amber, 8c. Beeswax, per pound, 25@27c. C. C. CLEMONS & Co.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

FACTORY PRICES
BEE-SUPPLIES in Cincinnati.

Let us give you quotations on Sections, Hives, Foundation, etc. We will save you money.

Beeswax wanted at 31c per pound cash; 33c in trade, delivered here. (Send for our free catalog.)

THE FRED W. MUTH CO.
7Atf 51 Walnut St., CINCINNATI, OHIO.

Best No. 1 Sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.
6A14t Please mention the Bee Journal.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.
Mention Bee Journal when writing.

THE AMERICAN FOOD LABORATORY
E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.
Samples of Honey analyzed. Correspondence solicited.

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Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY
Catalog for either, with instructions to beginners—Free.
29Atf C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.

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IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Mentio Bee Jonrnal when writing.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

9Atf Please mention the Bee Journal.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.

M. H. HUNT & SON.
REDFORD, WAYNE CO., MICH.

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Our Discounts on

BEE-SUPPLIES

are still in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, **up-to-date** hives are the

MASSIE HIVES

We make them. Have you seen them?

Have you received our new 1907 Catalog? It is surely the easiest Catalog to order from that you ever saw. It is so easy that you cannot make a mistake in your orders—a child can order from it as well as an adult. Write for it to-day; it is free for the asking. It is something new and entirely different from any you have ever seen.

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Muscatine Produce Co., Muscatine, Iowa.
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Catalogs issued in English or German.

We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken
265 & 267 Greenwich Street
NEW YORK, N. Y.

Mention Bee Journal when writing.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

47th Year APRIL 4, 1907 Number 14

AMERICAN BEE JOURNAL

Fair Exhibit of O. K. Rice, of Grays River, Wash.

(See page 278)

Apiary of Wm. Robert Shannon, of Brooklyn, N. Y.

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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are just the thing.
We send them by Return Mail

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

As most of our readers know, we have got-tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Dittmer's Comb Foundation

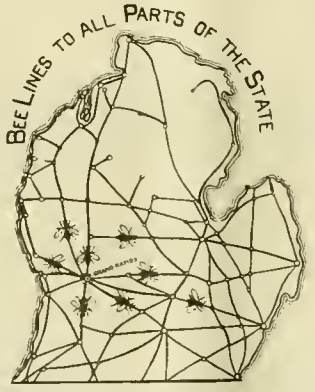
Why do thousands of bee-keepers prefer it to other makes?
Because the bees and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.



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Remus, Mich., Feb. 25, 1907.
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Dear Sir:—I use **Lewis Sections** exclusively; there are none better—the only perfect "V"-cut section that has come to my notice. They fold without moistening. E. D. TOWNSEND.

Remus, Mich., Feb. 18, 1907.
The **Lewis Hive-Bodies** are far superior, both in material and workmanship, to any I ever bought.
As ever yours, E. D. TOWNSEND.

Several Car-Loads on hand.
Immediate shipments. Beeswax wanted.
Advanced Bee-Veil, cord arrangement. Silk face, 50c, postpaid.

A. G. WOODMAN CO. Grand Rapids, Mich.

American Bee Journal

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

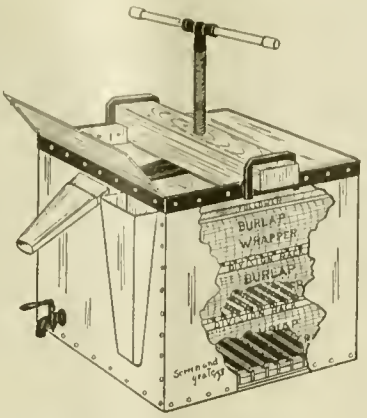
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

Send for list of Slightly Damaged Goods to select from at Reduced Prices. Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

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Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
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46 Percent

EQUIVALENT

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Annual cash dividend to bee-keepers on Supplies bought during

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For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8-room house—on Wisconsin river. Address, O. C. FITTS,
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Send for free Catalogue.

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Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
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Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

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Poultry Marker.....25c
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If you want goods Quick, send to Pouder. **Established 1889.**

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He is a wise man that knows when he has been "stung." But not all bargain-hunters are wise. Some of them have been stung repeatedly and still do not know how it happened.

It costs nothing to promise bargains. It takes no more printer's ink to describe a gold-brick than a Government bond. The real trouble begins when the gold-brick arrives. When staple goods are sold for less than they are worth the difference has to made up in some way.

This house has never found it necessary to sell goods at cut prices to secure trade. My business is growing all the time, on the simple proposition that I give a dollar's worth of value for every dollar received, and here is the way this proposition appeals to a whole lot of people besides this one:

Russell, Iowa.
Walter S. Pouder, Indianapolis, Ind.

Dear Sir:—Your draft and supplies for the 260 pounds of beeswax came promptly. Thank you—there is pleasure in such dealing. I have 300 swarms of bees. Yours most truly,
GEO. W. RIKER.

Highest market prices for Beeswax. Sent by freight or express, according to size of package, and attach your name to shipment,

I carry, ready for immediate shipment, all **BEE-KEEPERS' SUPPLIES**, including a full line of Root's Goods at Root's prices. Catalog Free.

Walter S. Pouder 513-515 Massachusetts Avenue, INDIANAPOLIS, INDIANA.

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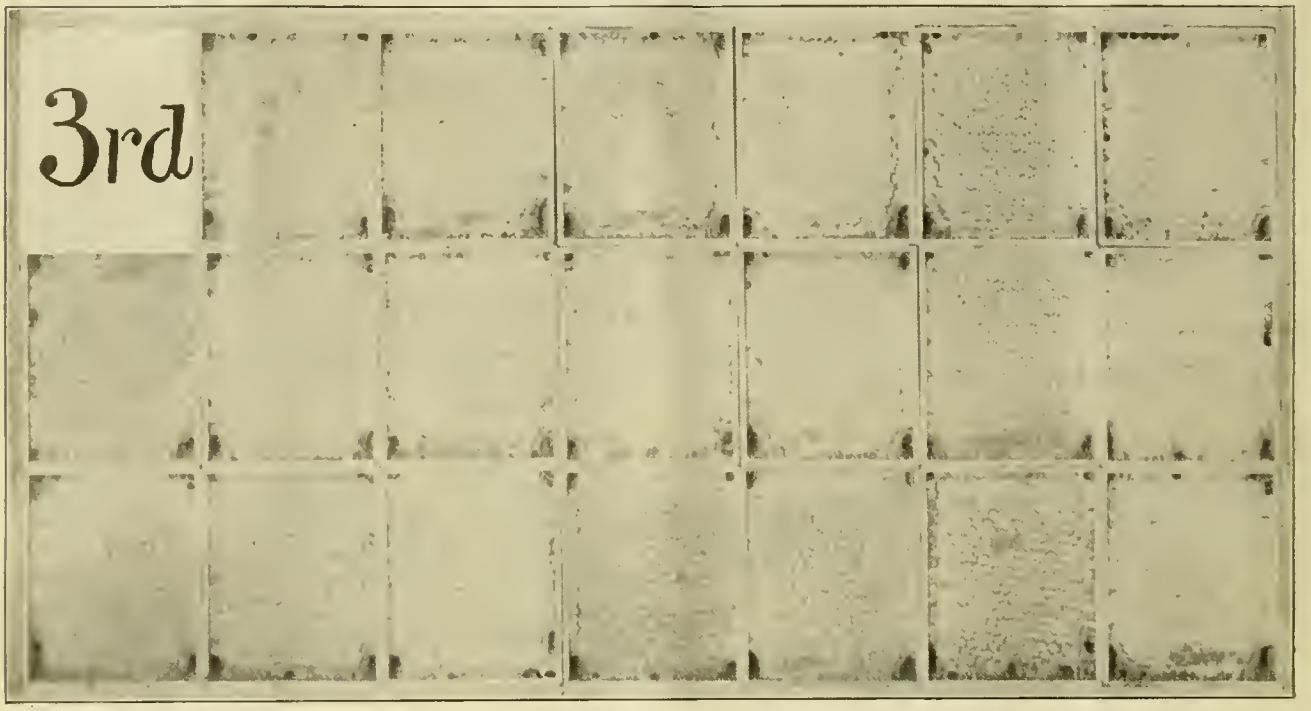
American Bee Journal

HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



More Honey

(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka.....J. M. Jenkins

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Toronto.....E. Grainger & Co.

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*Los Angeles.....California National Honey-Producers' Association

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* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL 4, 1907 | Vol. XLVII—No. 14

Quoting the Honey Market

We have received the following criticism of the honey-market quotations that appear in the bee-papers:

EDITOR YORK:—Most of the large honey-dealers in this country sell again the greater portion of their stock to wholesale houses, and when making such sales, must, of necessity, quote other prices to the wholesaler so that there is a fair margin of profit (usually 10 percent) to such party, and so that the latter can sell to the retail dealers at the same price as the jobber would sell to that class of trade.

Looking over the market quotations in the bee-papers, it appears that some firms quote their prices to the jobbing trade and others quote the prices they make to the retail dealer. Now this should not be. It is necessary, in order to make the quotations of any value, that they should be based either on jobbing prices or on the prices to retail merchants. We should prefer the latter, because then these prices would be a guide to the producers as to what figures they should sell to their local merchants.

A standing explanation should be given at the head of the market column so that everybody would know what the quotations signify, and so that the shippers would not expect that all of their honey would be sold at those figures.

Another suggestion that could stand a little airing, is the manner in which commission merchants render account sales to their consignors of honey. In all my experience I have found only one instance where the statement gave the information that the consignor is entitled to have, according to my way of thinking. Therefore, when we organized our institution, we decided to adopt a plan of keeping consignment accounts with our members and others, that would give all the details of each transaction that any reasonable person would want. We use two sheets for each consignor, the original remaining in the ledger; the carbon copy, when complete, going to the consignor and taking the place of statement. Invoices are numbered, being made in triplicate on an automatic register, the original invoice going with the goods, the first carbon copy being filed away numerically, and the second carbon copy alphabetically. Our check numbers are also posted in the ledger, so that it is an easy matter to verify the correctness of each entry.

For the purpose of saving space, we start posting consignment sales at the bottom of the page, and go up. When the page is filled the number of cases of honey should tally with the number of cases sold and on hand. The unsold portion taken with the debits and credits is then transferred to a new sheet in the ledger. Each consignor's sheets have their own numbers.

We are of the opinion that every merchant handling goods on consignment should be obliged to furnish a satisfactory account of sales. BUSINESS MANAGER.

We thought best to submit the foregoing to those who quote the honey market for the American Bee Journal, and the following are their replies:

GEORGE W. YORK & CO.:—In compliance with yours of the 26th, we will say that this is a good idea. We quote the price we sell to jobbers; that is, what we get in a jobbing way, and I think this is the best.

C. H. W. WEBER.

Cincinnati, Ohio, March 5.

GEORGE W. YORK & CO.:—Your favor of the 26th received, with criticism on the honey quotations, which we have carefully noted.

In reply we will say we deal with the jobbing trade exclusively, consequently our quotations are just what we get from the jobbers. We sell nothing to the retail trade here.

C. C. CLEMONS & CO.

Kansas City, Mo., March 5.

GEORGE W. YORK & CO.:—In reply to yours of the 26th ult., we wish to say that we are entirely in harmony with the sentiments expressed in the article referred to, and as for our own market quotations we will say that we always state the price at which we sell to the retail dealers, with the exception of beeswax, on which we quote the price that we pay delivered here.

THE COLORADO HONEY-PRODUCERS' ASS'N.
E. RAUCHFUSS, *Mgr.*

Denver, Colo.

GEORGE W. YORK & CO.:—Complying with your request under date of the 26th, relating to the market quotations as published in the various bee-papers, we wish to say that the prices quoted by us are what we receive when selling. Naturally the prices for which we buy are lower than those quoted in the bee-papers.

We are aware that the market reports as published to-day are confusing to the honey-producers, and you can not make these quotations too plain for them.

THE FRED W. MUTH CO.,
FRED W. MUTH, *Pres.*

Cincinnati, Ohio, March 5.

GEORGE W. YORK & CO.:—With an experience in the honey-business extending over a period of a quarter of a century, and following the quotations in the markets very closely for the last decade, I can see where quotations might be very misleading to the honey-producer and bee-keepers in the Eastern market. The prices among commission men for honey shipped in, as a rule, are very unsteady, and Philadelphia is an exception to other Eastern cities in the fact that we do not have any large commission men who make a specialty of dealing in honey. So various commission men who deal in other lines occasionally get shipments of honey from different parties, and in order to make quotations that would be satisfactory to the producer, I have always tried to average up these sales with a steady market that our dealers are having from the grocery trade. I believe it would be advisable, however, to quote prices that, if the producer were to ship on commission in this market, he could expect to realize after deducting commission, freight, carting and expenses. I would advise all producers who have any quantity of honey on hand always to write the commission men, giving them a clear statement of the quantity and quality, before making the shipment.

WM. A. SELSER.

Philadelphia, Pa., March 11.

GEORGE W. YORK & CO.:—Replying to yours of recent date concerning the method of making quotations in the American Bee Journal, we would say that in a general way the market report is made up from actual sales, but a commission house is considered to be a jobbing house. There are houses who do both a jobbing and a small wholesale business, *i. e.*, they receive consignments from different parts of the country and sell it to smaller dealers in the same line of business, who sell it by the individual package to small retailers, all of the large retailers buying the goods at the same price that the small jobber does, or the man who buys it and peddles the same out of a wagon to a retailer. The percentage of profit begins when the commission merchant sells the consignment, as his margin is the commission. Charge on car-lot consignments is usually 5 percent, but on small lots 10 percent, and the 5 percent pays the commission merchant a better net profit than the 10 percent (strange as it may seem), for in the case of the car-lot, where the goods run

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uniform, an exhibit of a few cases is sufficient to make the sale; on a lot of honey of 100 pounds to 1000 pounds it takes as much of an exhibit to sell it as it does the car-lot, and frequently many times as much expensive labor is employed in selling the small lot as the larger one, as there are often different grades of honey in the same shipment.

All commercial houses of any standing, including commission houses, keep a record of the sales, and when returns are made to the consignor, a copy of the original entries accompanies the remittance, so that the owner may know just how his consignments sold. A wholesale buyer usually understands what he is doing; therefore, presuming the seller is equally well versed in his business, a sale is more quickly effected than in the case of where a wholesaler is selling to a retailer who has more or less of a limited knowledge of what he is buying, and needs to have much more information imparted to him concerning the merits of the merchandise under consideration. R. A. BURNETT.

Chicago, Ill., March 5.

GEORGE W. YORK & CO.:—We are in receipt of your favor of the 26th, enclosing the article in regard to market quotations in the American Bee Journal. The quotations as they appear in the different papers, are intended to represent as nearly as possible the prices realized at that time in a jobbing way. This leaves a wide range as to quantity. While one man will not want to buy more than 5 or 10 cases, another might take 100 or more.

Where a party buys very largely, even the quotation prices are very often shaded in order to make the sale, especially so when there is plenty of supply and the demand not very active. There are quite a few firms, we believe, who do strictly jobbing business only, who, perhaps, are not in position, nor have facilities, to sell to the retail trade.

Your correspondent seems to think that the quotations as they now appear are not right, and that they should be based on the prices sold to the retail merchants, so as to guide the producers as to what figures they should sell to their local markets. We can not quite agree with your correspondent. Take, for instance, all quotations in the Journal of Commerce and Commercial Bulletin of New York, which, we are pretty sure, are wholesale figures or jobbing prices, and are generally understood this way.

Of course, where merchandise is sold in a small way it is generally sold at a little higher than quotation prices, and then the shipper would derive the benefit anyway.

While we can only speak for our own market, we are of the opinion that quotations for other markets signify wholesale prices. The vital point is, it appears to us, that the shipper should have confidence in the firm to whom he consigns his goods, leaving the handling of same entirely to their discretion and judgment. HILDRETH & SEGELKEN.

New York, N. Y., March 9.

GEORGE W. YORK & CO.:—We have your letter of Feb. 26th, enclosing a criticism from "Business Manager," and will state that we consider the way we handle honey the only way; that is, to buy it outright. We, perhaps, are in a little different position from some dealers, but we have secured a fair market of our own, on our own goods, and therefore have always handled honey on an out-and-out sale, and not on commission. From experience that has come to our view, handling honey on commission or consignment is very unsatisfactory. A great many commission men in the country take advantage of the bee-keeper. We have known instances where commission men would receive a nice lot of honey, would get a fair price for it, and then when they made their report to the bee-keeper they would report 2 or 3 cents less than they actually sold it at, deducting freight, cartage, breakage, etc., and in the end the bee-keeper does not get as much out of it as if he sold it to some good merchant that makes a specialty of handling it. We do not insinuate that all commission men are alike, but we have seen so much of it done that we are frank to state that it is not the right way for any man to market his goods.

When quoting the honey market for bee-papers we always quote what honey brings here, or what we term the "retail trade"—the grocers. We never quote our price to the jobbing trade, as this varies according to the quantity bought, and our quotations have always been just what honey was bringing here in a retail way. We do not think that any producer of honey in the United States has any business to sell his honey on consignment or commission, as there is no one that produces so much that some jobber in honey can not buy it outright and pay for it; then he knows just what he is going to get for it.

It is true that a great many bee-keepers never read the bee-papers, and never know what honey is worth. Invariably they sell their crop without even investigating as to what it is worth.

We think the matter is an important one, and we are satisfied that our view will be agreed to by the majority of honey-dealers.

THE GRIGGS BROS. & NICHOLS CO.,
Per S. J. GRIGGS, *Pres.*

Toledo, Ohio, March 5.

GEORGE W. YORK & CO.:—I have read with much interest the letter written by Mr. Business Manager, and I am heartily in sympathy with him. Market quotations should be very valuable to producers, but privileges to wholesalers in quoting the markets have been seriously abused. To me it seems that an explanation should be at the top of the column stating that quotations are the wholesale prices being made to retail dealers.

It appears that some quote the market as regards their own stock, without referring to the general market of city named. Some have used the space as a free advertisement, quoting what he, individually, pays for beeswax, leaving the public to guess what his near competitor is paying, and saying nothing about what he is selling at. Such quotations do not enlighten the producer in any manner.

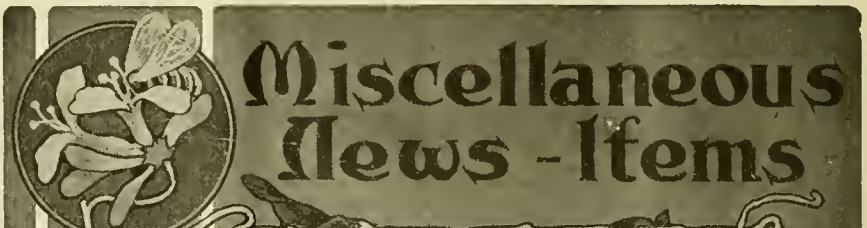
In quoting my own city I realize that I am not the only one in the honey-business by a long ways, and I look around to see what is being offered the retailer in a general way, and quote accordingly, regardless of any stock that I may have on hand. I have always believed this to be the correct method.

It is a question in my mind whether or not the producer of honey is ever justified in sending out his goods on the consignment plan. Better have a definite understanding about prices before shipping, and such arrangements can be made with responsible commission houses as well as with cash buyers. I recently saw an instance where a producer refused the price offered by a cash buyer, but agreed to consign his honey to a commission house in the same city. The commission house later offered the same honey to the cash buyer at a less price than had been offered the producer by the cash buyer. I am a believer in having an understanding about prices before shipping, and then a cash basis, for this is the remedy to guard against disappointments. In every large city the cash buyer has a struggle to compete with the commission man, but the cash buyer is the best friend of the bee-keeper.

A reform in market quotations is much needed, and will be welcomed by all who are interested. CASH BUYER.

There seems to be considerable agreement among those who quote the honey-market for the American Bee Journal. It is as we have always understood, that the prices quoted are those which the shipper might expect to receive for his honey, *after* deducting the freight, cartage, and commission charges.

The letters given herewith are certainly interesting reading, particularly the emphatic manner in which some urge the cash buyer's method. It would seem to be a pretty good way. And always write the dealer *before* shipping the honey, no matter whether it is to be sold on commission or for cash at an agreed price.



The Suburban Apiary of Wm. Robert Shannon, of Brooklyn, N. Y., is shown on the first page. Mr. S. writes as follows concerning it:

The little apiary represented in the enclosed picture is located in a Brooklyn suburb of "Greater New York." My little girl, boys, and myself, may be seen in the picture. Not having trees to shade from the hot sun I use a canvas covering, having space inside this cover to move about and do any needed work among the bees.

Last season, colonies having plenty of stores and a young queen, were very successful, giving 80 to 103 pounds of section honey Aug. 1; the same colonies sealing afterwards in the brood-chamber 40 to 50 pounds in September and October from wild aster.

I would say that queens after their second year are very uncertain. It is a waste of time to permit a weak colony to rear a queen. Such a queen will be small and delicate in these circumstances, and the bee-keeper will experience poor results. No queens can compare with those found in the parent colony from which a prime swarm has issued in June. Such queens are good for 2 years.

To be successful, attend to the common-sense known facts. Winter your bees with plenty of stores, and a young queen in each colony. Weather conditions must be very bad if one does not reap a plentiful harvest.

WM. ROBERT SHANNON.

A Fair Exhibit, made by O. K. Rice, of Washington, is shown on the first page. When sending the picture, Mr. Rice wrote thus:

Enclosed you will find a picture of our local grange fair exhibit of my honey. It took first prize. It had to, as it was the only honey exhibited. There were some bee-keepers that would have exhibited, but when I had mine ready they did not come. I sold $30 worth the day after the exhibit, and as a prize I got an 8-day clock which strikes the hours and half-hours. You can see it in the picture at the right. At the left you will see a volume of the American Bee Journal with the pictures of Dr. Miller, N. E. France, and Wm. McEvoy. It is the first issue for 1906. In the exhibit, the top row of honey is pint jars; the next is ¼-jars, and third ½-gallon jars. The fourth or last in the center ½, and next ¼ and pints. On the table is a cake of

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wax (10 pounds), and 3 plnt-jars on top of it. I will leave the reader to guesa the rest.

The year 1906 was a fairly good year for bee-keeping. I took about 1600 pounds from 24 colonies. It was all extracted honey. I sold it all at about 10 cents a pound.

Bees are doing well on the summer stands.

O. K. RICE.

Gray's River, Wash., Jan. 10.

The Clean and Upright Character of the American Bee Journal is thus referred to by Mr. Charles R. Smith, of Scranton, Pa., when commenting on it as an advertising medium:

EDITOR YORK:—Your reference to advertising in the American Bee Journal, on page 227, is of more than passing account. The important part of the whole article, however, is in Mr. Pouder's lines—"the readers of the American Bee Journal have confidence in its advertisers." And he could well have added, "and that confidence is established chiefly by the clean and upright character of the paper."

I keep a few bees for the pleasure and recreation I get from them and the honey for my table, and have occasion, sometimes, to buy of your advertisers, always with satisfactory results. Here is an instance: Never having had, or tasted, alfalfa honey, I ordered a 60-pound can of one of your advertisers. I suppose I shall never be without it on my table hereafter; and that firm may expect an order every year for a long time.

Yours very truly,

CHARLES R. SMITH.

We are very certain that more advertisers would patronize the American Bee Journal if they knew as well as Mr. Pouder about its value in that regard. Unless those who have good things to sell, let people know it, they can't expect to have much demand.

Proportion of Comb to Honey.—We have received the following from Mr. C. P. Dadant, calling attention to an error in reporting:

MR. EDITOR:—I see on page 237, at the top of the third column, that I am made to say that the proportion of comb to honey is about 25 to 40 percent. This was at the Illinois State convention at Springfield. I do not remember this matter, but I am sure I could not have said that, for the proportion of comb is certainly a great deal less.

I am often made to say, by the reporters, things that I blush to be credited with. I fear, however, that I am to blame for the mistakes thus made. I speak too fast. At the San Antonio convention I was several times cautioned by our stenographer, who said it was out of the question for her to report correctly words that came so hurriedly. But I wish to warn the readers against accepting as gospel truth all the small talk of the conventions. C. P. DADANT.

In referring to the original report as furnished by the stenographer to the secretary of the Association, we find it is just as we printed it. But any one who gives the matter any thought at all will readily know that over one-fourth of comb honey is not comb. At a guess we should say the proportion of honey to comb might possibly be as "16 to 1." And that might be rather more comb than there really is.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

How Far Do Bees Fly for Nectar?

BY J. E. CHAMBERS

During the past year I have noticed many inquiries and comments in the different bee-papers with respect to the distance bees fly in search of nectar. To all of these inquiries there has never, to my certain knowledge, been given a definite answer. It would seem as if some of the teachers should be able to tell us if the time-taught doctrine that bees seldom fly over 1½ miles in search of honey is true or not.

Editor Root, in a late number of Gleanings, gives the result of certain observations made by him during the time of their basswood flow. These observations, though limited in extent and place, lead him to the conclusion that bees do not generally go beyond the distance specified; however, he says this was probably due to the fact that they were able to get all they wanted within that range. Among all the writers of note I recall at the present time only Doolittle and Alexander, who claim that bees from choice fly farther than the orthodox 1½ miles. Of course, there are others who know that such belief, though time-honored, is all bosh, and that bees often go over 3 miles, and that, too, when honey can be had nearer. But many who know, laugh and let it go—not careless, merely, but indifferent to the right or wrong of an idea that gets scattered broadcast over the wild bee-keeping world. And I may here remark that this is also true of many other current, but nevertheless false ideas. Those who know are not disposed to correct false impressions.

During the past 6 years I often have called the attention of my neighbors to this idea, that bees go only 1½ miles, when the merest novice could see my bees 3, 4, and even 5 miles from home, and literally by the thousands, too. This was easily evident from the fact that in all the surrounding country there is not another large apiary, and neither are there any Carniolan bees except mine. Aside from this, I have been peculiarly well situated to make accurate observations during the past several seasons.

My home apiary is located on land covered sparsely with oak timber. To the east just one mile the sumac growth, large and small, sets in; the ground is hilly, sloping gently to the westward; ranging far eastward the country is one dense sumac thicket. But to the southwest the ground is open 2½ miles. At that distance there rises a high hill, and beyond this hill there is a very thrifty growth of sumacs. During the period of sumac bloom I have observed the bees going to those sumacs, the line of flight passing about 50 feet to the west of my door, and I have often watched the streaming lines of bees moving swiftly toward this hill, gradually rising in order to surmount its eminence. At the foot of this hill the roar of the bees high in the air can be heard fully a half mile to either side, and beyond the thousands of great creamy blooms are covered with the busy little workers, the silver-gray bands of the Carniolans showing up very distinctly against the creamy white of the flowers.

I have often watched the bees as they rose from the flowers with their loads, and whirled upward in a slow semi-circle, then swiftly darting downward on their homeward flight, nearly 3 miles away.

During all these years the closest watch has failed to show any great flight of bees toward the sumacs on the east only a mile and over. Why this is I am not able to tell, but, nevertheless, it is a fact; at any rate, I know that they go this greater distance from pure choice, as it would be the height of absurdity to imagine that the sumacs of the same kind growing on the same kind of soil did not yield honey in exactly the same locality. However, I think the location of the apiary with regard to the surrounding country has something to do with it.

Another thing I have noticed, which is, I believe, contrary to the generally accepted belief. The bees in my home yard give yields as great as the best in my out-yards, that, in many cases, are entirely surrounded by sumacs; and this honey is mostly brought from a distance of 3 miles and more. In short, my observations have satisfied me that those who claim that bees go only 1½ miles don't know, have a poor strain or race of bees, or else there are many conditions governing these things about which we know but little. At any rate, I have learned to despise a race of bees that are not good for a crop of honey if it is to be had only 3 miles of them. Choice colonies of Carniolans gathered 210 pounds of honey in 14 days, bringing it from a distance of 3 miles. How is that by the side of your 1½-mile stock?

Never in a single instance have I known my home bees to get less than the bees in my out-yards; but if there were as much as some think in the 1½-mile claims, they could be expected during the time of sumac bloom to get almost none, as there are but few sumacs within less than a mile, and not a very great many within less than the limit; but within 2 miles there is a great abundance. Concho Co., Tex.

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Beginners—A Queen-Introduction Method

BY WM. M. WHITNEY

The complaints of a beginner, referred to on page 25, and comments thereon can not fail to attract the attention of experienced bee-keepers—especially those who occasionally give their views on subjects pertaining to bee-keeping in some of the papers. It may be, and doubtless is, true that many subjects that are discussed by writers appear of little or no value to the beginner; but after having had pre-experience—if he remembers what he reads—he may make a practical application of what at first seemed unintelligible. What we read is often scarcely less valuable, though we may not be able to put it into immediate use. Even mere theory sets one to thinking, and often is of much value. It is true, doubtless, that the more advanced apiarists often forget their kindergarten days, and write for the benefit of the more advanced pupils; yet there is something always that may be appropriated by the novice; at least, I have found it so.

Lest I may be liable to the charge of having talked a great deal and said nothing, I will stop theorizing and conclude by attempting to give the best method I know of for introducing a queen. It is a modification of the instructions that go with every queen-cage, and, to me, is of sufficient importance to be worthy of emphasis. It may be of use to some beginner during the season near at hand. I have never observed it in any work on bee-keeping, nor in any paper, if I'm not mistaken. I think that Emerson T. Abbott is entitled to the credit for originating the idea. At any rate, the first I ever heard of it was when he gave it to the members of the Chicago-Northwestern Bee-Keepers' Association in convention in Chicago something over a year ago, substantially as follows:

When the queen arrives (without removing the protection to the candy) place the cage over the center of the brood-frames of the colony whose queen you desire to supersede; allow it to remain long enough for the bees to become acquainted with the caged queen, and for her to acquire the scent of the hive—say 24 to 48 hours; then remove the old queen, also the protection to the candy, and with a pencil, or anything handy, carefully puncture the candy and place the cage over the frames again, covering it up, and in the course of 2 to 4 hours the queen will be in quiet possession of the brood-chamber.

But queries the beginner, "What's the advantage of introducing the cage before removing the old queen?" There is this advantage (and in the season of greatest brood-rearing it is very important)—it gives the colony the benefit of her egg-laying during the time the caged queen is becoming acquainted, so that there is no slacking of brood-rearing at a time when a large force of workers may be very much needed.

Again, should a number of queens be received at a time when not convenient to attend to the work of requeening, or the weather should be unpropitious, the cages may be placed over the frames of the respective colonies till a convenient time to do the work, which may then be done as above directed, remembering all the time to examine carefully for the formation of queen-cells, which, of course, should be removed to insure success.

Evanston, Ill.

Bee-Keeping in California

BY PROF. A. J. COOK

Dr. Wilson and son have come here from Chicago for the sake of health, and ask some pertinent questions regarding bee-keeping in this section. They desire to be much out-of-doors, and wish to find some pleasant employment that may occupy their hands, and at the same time receive same financial returns for their labor. Our friends have done well to come to this region, especially if they have lung trouble. Here we can live out-of-doors, virtually, winter and summer, and diseased lungs must be pretty bad that can still cling to disease in the face of such out-of-door life. I know of many who have come here with serious lung ailments who are now well and vigorous. Outdoor air is the great panacea for incipient tuberculosis and asthma, and those who are suffering from either of these diseases find the dry, pure air of Southern California a very great, and ofttimes absolute relief. In case of tuberculosis, people from the East who come here in time, and exercise reasonable care after they get here, are almost sure to make good and speedy recovery.

The first question that Dr. Wilson asks is: What can one hope to gain net per colony, in case of intelligent management? I am glad that he added the last, as very much depends here, as elsewhere, upon the energy and skill that one gives to the business. I know of an able bee-keeper who has kept bees here many years and his record is about 75 pounds of honey per colony per year. As he has averaged about 6 cents per pound for his honey, it is easy to compute what he has secured. Some years the profits are very great—greater than anywhere else I know of in the world. But over against this we must remember that not infrequently, because of slight rainfall, there are no profits at all; and sometimes such seasons are not single, though I have never known but two failures to come in succession, and one of those was not absolute. The worst is not yet though, for in these seasons of greatest honey dearth, the bees must be fed, and so there is not only no gain, but absolute loss.

Dr. Wilson's second question had to do with method. He asked if it would be better to engage with some bee-keeper for a year and take what he might be able to get for his service, or buy a few colonies and commence at once "on his own hook." Without doubt he would learn faster by the first method, and perhaps would be as rich at the end of the year, but there is a pleasure in working the thing out for one's self, and by thoroughly reading the best bee-books and taking one or two good bee-papers he might hope—certainly after visiting one or two good apiaries, and observing carefully the work with the bees—to get on without making any very serious blunder, espepecially if he had some bee-keeper near by with whom to counsel if the case required.

These friends wished also to know how many colonies I should advise them to purchase in case they concluded to go ahead at once. I answered 10, and certainly not more than 20. The coming season, because of our generous rains, promises to be admirable, and if one started with 20 colonies and cared not to secure much honey the first year, it would not be difficult to increase these to 60 colonies or more the first year; and thus, another season, he would be able to have a fairly good-sized apiary, when he could again work for honey or increase, as would most suit his pleasure.

I was also asked to give the probable expense, kind of hive, and location that I would advise. I replied that I had known good colonies in desirable hives to be purchased at $5 each, and that I did not think that he ought to be obliged to pay much more than that for good, strong colonies. I urged that he take special pains to see that there was no foul brood in the colonies purchased.

In case one works only for increase the other expenses need not be great for the first year. A good smoker, bee-hat, and other necessary implements are not expensive, and, besides these, there would be little else than the hives.

I also strongly recommended that he adopt the Langstroth hive, with the Langstroth frame; not that these were necessarily any better than some of the other hives, but they are doubtless as good, and, being most used, have more to recommend them than any other hive that I know of.

As to location, I made only two points: One is, care to be in the midst of good forage, preferably near the mountains; and, second, to be as far from other bee-keepers as possible, though this last is not so important in California as in other sections. When we have good honey seasons there is so much nectar that we find bees do well even though somewhat crowded. I should wish to have an abundance of sage (both black and white), and should like to have these not only on the plains and mesas, but should like to have them extend well up into the canyons, that the honey season, always long here, might be further extended. It is also very desirable to be in the region of large orchards, for the nectar from such source is always valuable for stimulation if not for market.

Value of Honey and Bees.

I have often remarked that honey is very valuable food, that we must have some form of sugar and starch in our nutrition. No carbohydrate ranks above honey in its food-value, therefore bees, in giving us one of the very best articles of food, are always to be recommended, and I am always glad to recommend bee-keeping where there is

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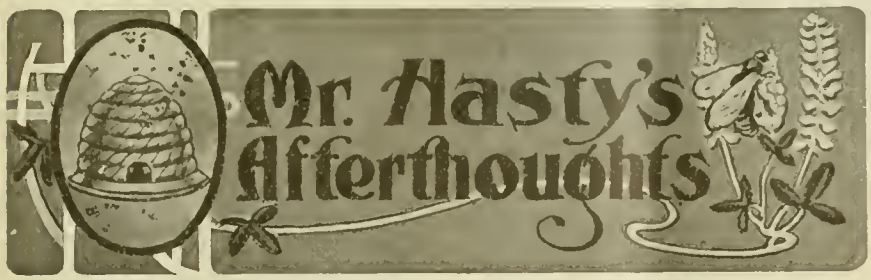
reasonable expectation of success. Bees are much more valuable in pollinating plants, without which work agriculture would be a sad failure.

There is a third point worthy of mention: It takes people out-of-doors, and so is health-giving. This is specially to be desired by ladies who, in this, find work that is not too taxing to their strength, and yet gives the needed fresh air and out-door exercise.

Claremont, Calif.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Bees With Pollen Lying Dead.

A pretty humble apology I owe to that poet, if bee-keepers—lots of them—have seen bees with pollen lying dead near the hives on chill days. The fact that I had not seen it (or thought I had not) doesn't let me out any. Poet had a perfect right to say so, if it is a thing to be seen to any extent. Nevertheless, I thank the Boss for suggesting mercy (instead of immediate execution) on account of my locality. The pollen season is right at hand, and I must watch out to see if I can not notice the same—and settle it whether it is locality or obliviousness that led me astray. Page 205.

Don't Extract from Foul-Broody Combs.

I gladly second Mr. Byer's protest against using foul-broody combs to extract from. The people are half awake on such subjects now, and looking around for impurities and uncleannesses. Let's clean our own Chicago stock-yards out, before they turn the lime-light and the laws loose on us. Page 133.

Location for an Out-Apiary.

E. D. Townsend, in a splendid paper, thinks that to get a tip-top location for the out-apiary, it may pay to put it off as far as a day's ride by railroad. For another thing, he seems to think clay soil the best for us—providing southern Michigan be the location and clovers the crop. I think so, too. Alas, I'm on sand! I'm not exactly in Michigan, but my bees sometimes are, I reckon. If the raspberry honey of northern Michigan is white, and that of southern Michigan a good way off from being white, that is a little curious—although not at all incredible.

Going inside thick woods and clearing just space enough for the apiary is a taking scheme—paying scheme, if in one season it put 50 colonies ahead to the amount of $160. Bees will undoubtedly winter and *spring* much better in such a spot. But my glasses have the word "swarms" scratched on them. Wouldn't prefer 100 swarms shut down to the choice of forest tree-tops or no place at all. This, by the way, is a personal point with me. My own apiary is by the old apple-trees and old ornamental trees of an old homestead, and I do not own the ground there. Brother inherited that. Not far away are nice thick woods which I do own. Great gain in one respect should I move. But whatever would I do with my ocean of swarms there? With better wintering I'm convinced there wouldn't be *quite* so many. Page 131.

Skunks and Bees.

The puzzle alluded to on page 134, ought not to be a hard one—why the skunk confines his attentions to the colonies he has been to before. I often feed bees at the entrance after nightfall, and thump them out, lest they fail to find the feed. Often it is a long, hard job to get them out the first time. After a few such experiences they come promptly and with a rush. Well, now, Peter! it will have to be confessed that coming out to eat and coming out to be eaten are not the same identical thing. But the general effect is the same. Bees often disturbed at night (as long as they have half a force left) are prompt to come out. And Sir Strong Essences, having a lazy streak about him, is disinclined to the delay and extra scratching it takes to get the others out.

Some Swarming.

We read on page 137, that Mr. Aspinwall had last year 10 swarms from 40 colonies. That stumps me again. Somehow I got it in my mind that he didn't have any. No "great shakes," if the above report is right! *Some years* if you tried your best to make colonies in common hives swarm, you wouldn't get so many as 10 from 40.

Heat from Colony Below a Super.

It is true, as D. J. Pawletta found, that a strong colony below does not do nearly as much as we would expect to keep honey in a super above from getting cold. I have often noticed it—and sort o' kicked at nothing on the subject. I guess the explanation is that we figure much too largely on the total amount of heat which a colony has in store for any possible uses, or losses, in cold weather. Keeping warm pre-eminently a matter of economy with bees. And a colony of bees doesn't compare well with a fire, or even with a lamp, as a commercial source of heat. Page 136.

Pure Blood and Drone Progeny.

And now a writer on page 138 says we must trace pure blood by the drone progeny. It's not for me to scoff; but I should say that was pretty high doctrine. Perhaps common folks might be pardoned for holding off until a considerable body of experts agree to that. Get some "brethren" in your empty church before you ask us to "jine."

Honey-Butter and Pure-Food Law.

It may be the rendering now given to the pure-food law does here and there go a little "into the pictures" in forbidding certain words to be used at all concerning compounds whether they describe correctly or not. The butter crowd are powerful, and possibly a little ugly—and possibly our officials are a trifle too much "afeared" of them. Not sure things are getting to that pass, but have kind o' smelt it, that the word "butter" was to be held too sacred to be used at all except the article were pure—and also unmingled, and untreated. But even if the charges are partly true a little annoyance for a while may well be borne. Considering how long we have been waiting for the chance, we should be glad to bear something. Things will come right eventually to every honest maker. If apple-butter and peach-butter have to give up their "butter," honey-butter need not waste many tears. If honey mixed with butter can not be called "honey-butter," call it "Honey—and," with not a letter more—and a shrewd pusher of products wouldn't ask for any more captivating label. Page 146.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

American Bee Journal

Conducted by EMMA M. WILSON, Marengo, Ill.

Bees in a Dining-Room Decoration

Mr. C.G. Chevalier sends the following item:

Mrs. Spender Clay is very busy just now with the decorating of her house on Berkeley Square, London. She has secured a mantelpiece for the dining-room which is quaint, if not beautiful. It represents a bear being chased by a swarm of bees, and the carving is down to details. Each particular bee represents much labor and skill.

If the artist had been at all faithful in his representation, what an interesting study this would be. Good thing that Mrs. Clay's artistic tastes run bee-ward instead of in some other directions; but how much more interesting she would find the real little creatures in full life.

Honey-Sandwiches

Chop together English walnuts and raisins in equal proportions. To each cup of this mixture add 2 tablespoons of honey and 1 of orange juice. Spread between lightly buttered slices of cream bread and cut into dainty shapes.—Good House-Keeping.

A Sister's Success With Poultry

It is undoubtedly a breach of trust to put in print, without permission, part of a private letter; but the temptation is too strong to be resisted to give as a text the following extract from a late letter of Miss Frances E. Wheeler, of New York State, under date of Jan. 28:

DEAR MISS WILSON:—We have had a very uncommonly cold winter; but bees and birds are fine. Our 27 White Holland turkeys are sleeping in a woodshed and thriving with the mercury below zero for days, and at one time 40 below. Not a toe is even frosted! We are running 200-odd ducks, and in 2 of our houses have not lost a bird; in the other, just 3 young ones. That is a remarkable record; but I don't expect you to appreciate it as much as if I'd got off a big thing on bees.

FRANCES E. WHEELER.

That's the text: now the sermon—at least the application:

Since a sister who shows herself so successful and capable in the poultry business has told us on page 50 that in the struggle for continued existence bet ween the bees and one branch of the chicken business, the bees won, it seems very evident that there must be something either quite profitable or quite fascinating, or both, in the business of bee-keeping for women.

Bee-Keeping Woman's Work

The new book, "The Bee-Master of Warrilow," has a chapter entitled, "Chloe Among the Bees." A woman of philanthropic turn has established a bee-farm which seems to furnish occupation for quite a number of the gentler sex, and she thus explains the object of her enterprise:

"This is an attempt, and, we believe, a real solution to a very real difficulty. There are thousands of educated women in the towns who have to earn their own bread; and they do it usually by trying to compete with men in walks of life for which they are wholly unsuited. Now, why do they not come out into the pure air and quiet of the countryside, and take up any one of several pursuits open there to a refined, well-bred woman? Everywhere the laborers are forsaking the land and crowding into the cities. This is a farmers' problem with which, of course, women have nothing to do. The rough, heavy work in the cornfields must always be done either by men or machinery. But there are certain employments, even in the country, that women can invariably undertake better than men, and bee-keeping is one of them. The work is light. It needs just that delicacy and deftness of touch that only a woman can bring to it. It is profitable. Above all, there is nothing about it, from first to last, of an objectionable character, demanding masculine interference. In poultry-farming, good as it is for women, there must always be a stony-hearted man about the place to do unnamable necessary things in a fluffy back-shed. But bee-keeping is clean, clever, humanizing, open-air work — essentially woman's work all through."

Speaking of one girl who seemed to awaken especial admiration in the mind of the visitors, the bee-mistress said:

"That girl came to me out of a London office a year ago, anæmic, pale as the paper she typed on all day for a living. Now she is well and strong, and almost as brown as the bees she works among so willingly. All my girls here have come to me from time to time in the same way out of the towns, forsaking indoor employment that was surely stunting all growth of mind and body. And there are thousands who would do the same to-morrow, if only the chance could be given them."

Here is a picture of what was seen in the apiary:

"Here and there in the shade-dappled pleasance figures were moving about, busily at work among the hives, figures of women clad in trim Holland blouses, and wearing bee-veils, through which only a dim guess at the face beneath could be hazarded. Laughter and talk went to and fro in the sun-steeped quiet of the place; and one of the fair bee-gardeners near at hand—young and pretty, I could have sworn, although her blue-gauze veil disclosed provokingly little—was singing to herself, as she stooped over an open hive, and lifted the crowded brood-frames one by one up into the light of day."

I wonder how many of the sisters sing while working over an open hive. But isn't it a pretty picture? The whole chapter, as well as the rest of the book, is beautifully written, and although it would hardly do for a text-book, it is very pleasant reading.

BY W. A. PRYAL, Alden Station, Oakland, Calif.

Honey and the "Yellow" Press

An editorial in Gleanings states that "the honey-business is not the only one which suffers from the yellow press." As the Ladies' Home Journal, and several others of that ilk have been called to account at divers times by the aforesaid editor for publishing untruths about the honey-business, I suppose Editor Bok, of the aforementioned ladies' publication, is a yellow journalist, and his paper a deep-dyed saffron sheet, too. Let's take up a subscription and buy a load of chemicals and present the purchase to the Ladies' Home Journal, that the Curtis Publishing Co. may remove the offensive color from their paper. And while we are about it, we may help the other papers to get rid of the nasty color, also.

From a long, practical experience with daily newspaper work, I can say that no paper, daily or otherwise, reviles an industry for the very lust of lying. No reputable publisher wishes to tell an untruth about an industry, for it is not good policy in the first place. Some managers, however, make it a rule of their office to let a misstatement of fact go uncorrected rather than let the readers know that it was in error. This may be good policy for the paper; morally, it is not.

I am not an apologist for sensational journalism, but we must give some of these publications the credit of leading the strongest fight ever made by the daily press of the country against the

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evil of drunkness. And it has been done by the page—a whole page in bold type at a time. And there are other evils it has fearlessly attacked, too, one of the greatest being the trusts. Let the good work progress.

Hives in California

How the hive question crops up ever and anon. And well it may. We have what we call a "Standard" frame in

HIVE NO. 1.

America, but, to my mind, it was a badly chosen one—one that will have to give way to a more common-sense one in years perhaps not so far distant. I believe if it were not for the hive-

HIVE NO. 2.

factories, which, for the most part, are not run by practical apiarists, we would not have such an ill-shaped frame thrust upon us. But we must grin and bear it until the factories come together and give us something better.

This calls up the factory versus the home-made hive. I've tried both. 'Tis an interesting occupation to make one's own hives, and I've done it; and, unfortunately perhaps, I did not let my hand and fingers come in contact with a buzz-saw. Maybe that's one reason why I never got over the bee-fever during these 40 years and more. If I were asked what I would rather have, a factory hive or one made by myself, I would answer: If you could give me a factory hive without so many parts to it, I would rather have the factory hive. For simplicity, I would rather have a hive made after my own idea—and it would be perfect.

Perhaps if I were running a planing mill in the East, where wide boards are not so common as they are here, I would be compelled, for economy's sake, to work up a lot of odds and ends, and thereby turn out a hive with as many pieces to it as had Joseph's coat. I like the old-fashioned hive with a single-piece bottom-board; ditto for a cover. The latter could be enhanced by having a piece of prepared roofing tacked upon it. Leaky roofs are an abomination. I've had to contend with them, and although they are not so bad on the bees here as they are in worse climates, still it is far better to have tight covers.

Any old box with good rabbets for the frames to rest upon with tight cover, single-piece bottom-board, and uniform frames is all that is needed to build up a successful apiary. Of course, I should have every other "old box" like its brother. There's nothing like interchangeability in the bee-yard. That's one thing to the great credit of the factories—they make all parts alike.

I herewith furnish 2 photographs of home-made hives from 2 apiaries in California. In No. 1 we have a hive built pretty much upon lines laid down by Prof. Cook some years ago in his valuable work on bee-culture. It was somewhat modified, as the user had an extractor that used the size frame it was designed to take. The hive is plain as plain can be, and has given satisfaction for a score of years. The colonies in these hives are run for extracted honey.

In No. 2 is shown a solidly built Langstroth hive, and like the usual California "home of the honey-bee," it is not built for its good looks. The bees seem to appreciate them just the same, for they load them up to the gunwales when run for either comb or extracted honey.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

The opening session was held Thursday, November 8, 1906, at 8 o'clock, p. m., President C. P. Dadant, of Illinois, occupying the chair. Mr. W. Z. Hutchinson, the Secretary, being unable to attend the convention, Mr. George W. York of Illinois, was elected Acting Secretary of the Association.

Pres. Dadant called the meeting to order, then the following address of welcome was made by Pres. W. O. Victor, of the Texas Bee-Keepers' Association:

PRES. VICTOR'S ADDRESS

"Texas is the greatest bee-keepers' State in the Union. It is the greatest in a great many other things. Texas raises more cotton, more rice, more cattle, than any other State; has a fine flow of oil, and is rich in mineral deposits. It has as much to make the people prosperous as any State in the Union. San Antonio is known all over the State as the best residence city in the State. The banks of the City have more money in their vaults than any other Texas city. It is of great historical interest, and we will have more of it to show you before you leave. We welcome you to the best city in the best State in the United States, and invite you to become citizens of it."

A response was made by Pres. Dadant, saying the bee-keepers outside of the State of Texas were glad to meet in the South, as but once before in the 35 years' history of the Association had it met so far South, and that meeting was held in New Orleans, La., in 1885.

As there was very little business to discuss the first night, the question-box was opened, but before that was done, at the request of N. E. France, Dr. Bohrer, of Kansas, one of the two charter members of the Association present, was called upon to deliver a short address, which was as follows:

DR. BOHRER'S ADDRESS

I am a good deal like a gentleman was, that one time went into church, and was somewhat intoxicated. He sat down and went to sleep. At the close of the services the minister desired all to stand up that wanted to go to Heaven. All stood up except this man. He woke up about this time and

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the minister asked all those that did not want to go to Heaven to stand up. The man didn't know exactly what the question was, but said, "Parson you and I are fearfully in the minority;" so I am fairly in the minority, and I do not know what was talked about.

I was a bee-keeper in the State of Indiana, and moved from there in 1873 to Kansas, which was not adapted at that time to bee-keeping. Many of the flowers were non-honey-producing plants. Now we have thousands of acres of alfalfa in Kansas. The weeds grow and the bees take possession of it, and gather a good deal of honey from it. Like Texas, Kansas is getting to be one of the best honey-producing States.

I am certainly glad to visit the State of Texas. It has been more than 40 years since I was here, and it is not so warm as it was then. I have had a warm reception, but not so warm as I had then. I happened to be a soldier, and was probably in the last engagement of the war, at Brownsville, Texas. There was one man killed. I was in the medical department of my regiment. Another soldier, a Texan, was dangerously wounded. Both were splendid men, and each had a wife and six children at home, and I never will forget the conversation I had with the wounded man. I went into the hospital and he said, "I suppose you are one of the doctors." Then he said, "Will I be neglected because I am a Confederate soldier?" I said, "Not a particle, you and I are not responsible," and that I was but one of those who had to settle the great question, and that we did not hold a personal grudge. Since then the North and the South have united. I never think of Texas but what I think of that unfortunate occurrence. There was a gulf between the two sections of the country at that time that seemed to be impossible to fill up and bridge over. Now, tonight I don't think there is a man here or elsewhere but what would be willing to concede that it is not only bridged over, but almost entirely obliterated.

The daughter of the Confederate soldier falls in love with the son of the Federal soldier, and they are mixing up and making the grandest people the world ever knew. No other country has ever reached that high degree of civilization that has built it up, but the end has not come yet; everything, like bee-keeping, is in its infancy. When bee-keeping was introduced in this country, it was my lot to buy the first queen that was ever purchased in the State of Indiana. The people did not know what that meant,—the idea of sending off and getting a select queen and introducing it to a black colony of bees; that it would change that colony to a colony of Italian bees! Why, the man that considered this idea was not considered of sound mind, and they laughed at me. I was a physician, and several families refused to employ me. But after I had succeeded they would come 15 and 20 miles to see my bees, and one man said, "the blamed fool has actually done it!" I paid $10.00 for that queen, and I paid $20.00 for the second one. We have advanced in the matter of queen breeding so the finest queens can be bred for $5.00.

I want to say to you that I am not engaged in the business of bee-keeping with the hopes of making a single dollar, but I do hope and expect to benefit somebody, and engaged in that pursuit for pastime. I have only about 30 colonies but they keep me busy.

I want to say that a great many Italian bees in this country are not so good as the bees from Mr. Langstroth. We are too careless as to how we handle them. We take great pride in advising with a man who wants to do the best he can. If you can breed two superior and distinct breeds, don't breed them less than 20 miles apart. There is something in the Carniolan blood that makes them a little crosser than I want bees to be. I have gotten from one of the best queen-breeders in the United States, and from a gentleman of the South, too, a Carniolan queen. I went on for some length of time, thinking it was due to some imperfection of the queen; the brood would begin to die, and keep on from the time they began to hatch; many of the queens did not fly. I simply pounded the life out of that queen and gave them brood from another queen that I got from a Tennessee queen breeder. I say to you, gentlemen, that there is great danger of this thing happening in this country, and in my opinion this has gone on long enough. If the queens are worthy of being introduced, let them be tested, and don't you breed them less than 12 to 15 miles apart.

QUESTION-BOX.

"Will a list of bee-keepers' names be printed for distribution, as at Chicago?"

Pres. Dadant—I make this explanation, that it costs us a little each year to make this distribution; our daily papers are only too glad to report who were at this convention.

Mr. France—Last year there was a motion that but two answer a question briefly and decidedly. I don't think that is the intent this year, but to make the question-box the most important of the whole meeting.

Mr. York—That was done near the close of the last session, and because our program was long. We lacked time.

1906 HONEY CROP IN TEXAS.

"How many carloads of honey did Texas produce this season?"

Pres. Dadant—That is a question for our Texas bee-keepers to answer. I would like to hear from them.

Mr. Victor—Texas did not have a heavy crop this year. I think it was all shipped locally, and it would be hard to say exactly. Some seasons we ship a good many carloads, but I did not try to make an estimate this year. Possibly Mr. Toepperwein could give us the information.

Mr. Toepperwein—Mr. Atwater is up on this. He can tell us.

Mr. Atwater—I can hardly answer the question, because the season is not quite over yet. I think at the close of the season we will make a very good report.

FEEDING QUEEN-LARVAE.

"How long do bees feed the larva before the queen-cell is sealed? Does the age of the larva have anything to do with it?"

H. Piper—I would like to say that in Texas it takes only 4 days. Then again, the age of the larva has something to do with it. If I use a larva over 4 days, it does not take so long.

Mr. Dadant—Mr. Root, let us hear from you on this subject.

H. H. Root—These queen-breeders can answer this question better than I.

Mr. Victor—I don't like to talk on every subject. I think, though, in a matter of this kind, it would be as the first gentleman said. It is from the time the larva hatches, or until it is sealed as a queen. I would say from the time it hatches from the egg into the larva would be between 5½ and 6 days, and usually about 4½ days after it is transferred from the queen-cell before it is sealed over.

J. E. Chambers—I wish to say that my experience is limited. I find that a larva is used from 12 to 14 hours.

PROGRESS IN GETTING BETTER-NATURED BEES.

"Has there been any real progress in getting better-natured bees within the last ten years?"

Mr. France—I think there has been progress in the bee-keeper being better-natured in handling the bee.

Mr. Hilton—There is no question in my mind but there has been progress. The bee-keepers do not retrograde, and they either advance or else they do retrograde as do all institutions, and from that standpoint I say there has been progress. I know that I got good results by introducing new blood into the apiary annually. It is one of the best investments a man can make, consequently I answer in the affirmative, that there has been progress made in the bettering of the nature of our queens and bees in the last ten years, in accordance with the question asked.

Mr. Aten—I do not believe they have. I believe the gentleman was just talking about the people, that some people get better blood amongst their black bees, but I cannot see that the new blood they are introducing is as good as the bees we had ten years ago.

Mr. Hilton—I certainly take exceptions to the gentleman's stand, and I say that we do get more gentle bees by introducing new strains of gentle blood, and I am sure I can bring to bear the experience of other men that have introduced a more gentle strain. I am glad the gentleman called me out, I like discussions, and it is good for us; it is good for us to dwell together in harmony while there is harmony in good, honest discussion, and there is information, and there are those of us who have come 2,000 miles that don't care to go home with empty minds, but we may go home with empty pockets. I want to say that I have been taught something while here.

Mr. Adkins—I believe that the introduction of new blood has made our bees better-natured. I was not a bee-keeper 20 years ago, but I heard my neighbors

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talk about bees, and they said my bees were gentle compared to those that they had then.

Mr. Aten—I differ from those gentlemen in this way: I say that I had just as gentle bees ten years ago as I have today; I say there were just as gentle bees in the United States as I have today, and I will stick to that.

Mr. Coggshall—Mr. President, my experience has been that my bees have been crosser by every blood that I have introduced. I have had bees from different queen-breeders, and I take it no better blood.

Mr. Parsons—I can see, as I understand, applying to the last ten years, that there has been an improvement in the bee's gentleness. My experience is that it is an unknown quantity when you introduce a new race, or a new blood, as to whether that will be an improvement in the crossing of blood; but there has doubtless been great improvement, and there are constant improvements in the rearing of queens and cutting out of ill bees. And there is where the great improvement is made, cutting out the ill bees instead of trying to get a new cross by introducing new blood; and where I find a queen on a colony of bees that is ill I do away with that queen; and a cross of one race with another, so far as I have observed, almost invaribly makes an ill-natured bee, and is hard to handle.

Dr. Bohrer—I will say that 42 years ago, in 1864, I got my first Italian queens, and I used to handle those bees without any protection whatever on my face and hands; but in 1901, when I again fell into line with the bee-keepers, I did not find it that way. The bees were cross, and stung me on every side if possible, but not always. Those bees that I speak of 42 years ago, once in awhile they would sting me, but on other days they would not; but I never undertake such a thing now as to handle them without my face and hands well protected, and sometimes they do not sting me at all while other times may be 100 will sting me, but whether it is due to the climatic influence or the nature of the bee I am unable to say. These good bees were rare in Indiana, but I do know that they are crosser as a rule. I have got rid of some of those cross bees by introducing a new strain, but taking it all in all I doubt whether I have succeeded. I say, push it to its fullest extent, so that nobody will be deceived, and if they prove as good as I think they will, as good honey-producers and not so good-natured, it would be wise to adopt them, but it would be premature to conclude that they were an improvement upon another bee in disposition; they may be, but will they prove to be a profit? I don't think we are prepared to answer this question.

Mr. Kemper—I think I made an advancement so far as gentleness is understood. Is it to introduce a bee that will not sting, or one better-natured? I don't believe that I have made an advancement as to introducing a gentle strain of bees.

Mr. Smith—Now the question is, Has any progress been made in improving the gentleness of the bees by breeding for that result? I want to ask the queen-rearers, How many of you have bred queens for that single purpose? I, as a rule, have found that most queen-rearers have been breeding queens for color, and long tongue and honey-gathering. Now, conditions depend a great deal upon the gentleness of the bees. Take a year like this, in Illinois you never saw bees crosser than they are this year. I visited probably 1,000 apiaries over the State and I want to say there were very few places I was not secure as to hands and face and sometimes it was almost impossible to control them with dense smoke. I think it depends a good deal upon conditions. That has been my experience.

Mr. Reed—So far as the queen-breeders of Texas are concerned, I am bound to take the negative side of this question, so far as those I have patronized. I don't believe that the breeders of Texas are breeding as gentle a race as they did a few years ago. I attribute it to the Cyprian blood they are introducing.

E. J. Atchley—I think that question can be answered in one word. There has been progress made, and it seems to me that queen-breeders ought to answer this. If they think it is the part of the honey-producers to answer this, from my own part I think there have been improvements within the last ten years in the rearing of queen-bees.

Mr. Jouno—I think it is due to having better facilities for handling bees, and a better understanding of them. As to ten years ago, it seems to me they are more gentle.

Mr. Chambers—I wish to say that for my own work within the past 6 years I have used improved Carniolan queens, and they produce strong honey-gatherers. There has not been a year that I have not introduced new stock, and I find them to be more gentle than when I allow them to run on for several years.

O. P. Hyde—I have had some experience in the queen-breeding business for several years, and I have had several races. I had a yard with 5-banded and 3-banded, the Carniolan, Italian and Holyland, and my experience has been that where I stuck to the Italian bees I have improved the gentleness considerably over the black bees; but where I find a breeder that recommends the Cyprian and gets them mixed up with other bees, they are a very cross bee. I know this by experience. I went to a Cyprian colony and I know by experience they will sting. If we will stick to the Italian bees, I claim that the gentleness is considerably better than it was ten years ago.

Mr. Victor—In answer to Mr. J. Q. Smith, as queen-breeder, I would like to say that the first thing I consider is selecting a queen-mother with the honey-gathering qualities first; looks next, and gentleness for the third place; and I will say that I used to breed three different strains of Italians, tha I called improved Italians; then home bred Italians, and then the goldens. I decided the goldens had nothing but looks, and I quit them, and since then I have bred the 3-banded Italians, and I think I have better results in queens and honey-gatherers also.

(Continued next week.)

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Prevention of Swarming—Getting Most Surplus Honey

1. How would you prevent swarming? I have 15 colonies and they do nothing but swarm. I give them supers with starters, and they will go up and fill 2 or 3 sections and then swarm. One of my colonies swarmed 4 times in a week and a half. What would you do to stop them from swarming?

2. And what kind of hive would you advise me to use?

3. How can I get the most surplus honey?

MINNESOTA.

ANSWERS.—1. It is not an easy thing to prevent a first or prime swarm. Perhaps what will suit you as well as any way is to allow the first swarm to issue, and then prevent afterswarms in the following way: Set the swarm on the stand of the mother colony, putting the old hive close up beside it, both hives facing in the same direction. A week later move the old hive to some new place 6 feet or more away. That's all; the bees will do the rest, and you are not likely to have any further swarming from a colony thus treated.

2. The best thing is a hive with movable frames, and it matters little how simple. For success does not so much depend upon the hive as it does upon the man and the pasturage. Perhaps as good as any for you is the plain 10-frame hive that you will find listed in the catalogs under the name of "10-frame dovetailed hive."

3. That's a thing that can not be told in a few words. The main object of every number of this publication is to help toward getting more honey, and the bee-books are all for the same purpose. So you can hardly expect me to tell in a few lines what occupies hundreds of pages. It will do no harm, however, to say that the chief thing on your part is to do all you can to get all colonies strong enough for the harvest, and to keep them

American Bee Journal

strong. You will see that the answer I have given to your first question runs in this line. If your bees are all divided up by excessive swarming, you can not expect much surplus. But by proceeding according to the first answer you will keep nearly all the force with the first swarm, and that's the one that will give you the honey. A couple of days after hiving the swarm, you will take the surplus arrangement from the old hive and put it over the hive containing the swarm.

Dental Wax

What is the difference between dental wax and ordinary beeswax, if any? If so, how do you prepare the dental wax?

RHODE ISLAND.

ANSWER.—I don't know. I think the principal ingredient is beeswax, but I suspect other things are also in it. Perhaps some of our dentist friends will tell us.

Protecting Bees With Tar-Paper

How can I protect my bees after putting them out of the cellar, with tar-paper? and when should it be put on, when taken off, and what is accomplished for the benefit of the bees?

IOWA.

ANSWER.—Whatever protection of the kind is given should be given just as soon as possible after the bees are taken out, as it is likely to be colder then than afterward. The time for taking off depends upon the weather; no harm to leave it on until fruit-bloom, or even till the first bloom is seen on clover. The advantage is that the bees are kept warmer, especially cold nights. Just how much that advantage is it would be hard to say, no reports being yet given as to comparative results with and without protection, While probably very few practise such protection, some think it wise to protect supers throughout the season.

Probably Bee-Moth Larvae

What is the matter with my bees? They are golden Italians. I just ordered the queen from Florida. I see from 3 to a dozen young bees, which look as if they were just hatched, dragged out on the alighting-board every morning. Some of them are not yet quite dead. The ground in front is covered with dead bees. They are not starved for they have honey in the hive. What is a remedy?

ARKANSAS.

ANSWER.—If you will examine the frames you will likely find that the larvæ of the bee-moth have built their galleries through the combs, not killing the young bees in the cells, but injuring them enough so the older bees throw them out. Probably they will come out all right if you will let them entirely alone, but if you like you can help the bees to clean out the unwelcome intruders. Take a pin or a sharp-pointed nail and prick a hole in one end of the silken gallery; then begin at the other end, tearing open the gallery as you go, and the worm will pretty soon crawl out, and then you have your choice as to what death you wish it to die. One way is to let it drop on a hive-cover and then mash it.

Getting Straight Comb from Starters in Wired Frames

My boy and myself wired about 200 Hoffman frames with the intention of putting in full sheets of brood foundation. Suppose I put in only starters an inch or 2 in depth; will I get reasonably straight combs, or will the bees build on one side of the wires? In other words, having wired frames is it necessary to use full sheets in order to get straight combs?

NEW YORK.

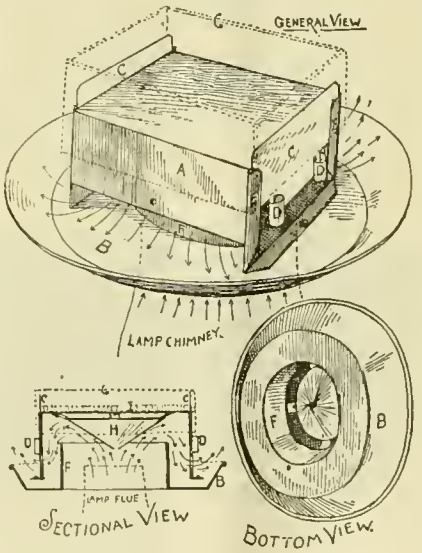
ANSWER.—Some claim that when there is only a starter in a wired frame, the bees will build down their comb so as to make the wire come in the septum of the comb. I would not like to be too positive about it, having had little direct experience in the matter, but I *think* that without foundation they steer the septum straight for the center of the earth, and if the wire happens to come in that line it will be in the septum, ortherwise not. Whether your frames are wired or not, with an inch starter you may count on reasonably straight combs, except that they will be somewhat corrugated, provided hives are level from side to side. But are you willing to run the risk of having as much drone-comb as the bees are likely to build without foundation? In the long run, I suspect you will find it economy to fill the frames with foundation. At any rate, it may be well for you to fill most of your frames full, trying only a few with starters, and if you succeed well with the starters you can work on that plan afterward.

Taylor Comb-Leveler

I send you herewith a picture of the Taylor Handy Comb Leveler. Is it necessary to use one on bait-sections? I see no mention of such a contrivance in any of the bee-books. What is your opinion of it?

CALIFORNIA.

ANSWER.—I have made considerable use of the Taylor Handy Comb Leveler, and consider it a very fine thing. But the statement in the advertisement that you enclose, which



says concerning unfilled sections left over at the close of the season, that "without being leveled they would be practically worthless" is altogether too sweeping to be true. An unfinished section that is clean generally needs no leveling. But when the surface of a section is soiled or glued, then the leveler is a nice thing to melt away the objectionable part. It is also good where a section is too thick and would be built to the separator.

Bee-Song Souvenir Postal Cards.—We have issued in colors, 3 bee-song postal cards for bee-keepers, each card having one of the following songs, about 2¼x3¾ in size, also with illustrated heading on each card: "Buckwheat Cakes and Honey," "The Bee-Keeper's Lullaby," and the "The Humming of the Bees." The first two cards have small pictures of the authors of the words and music. This makes 4 souvenir postal cards we have now issued for the use of bee-keepers, the first being the "Honey-Bear" card. Prices, by mail, are as follows: Sample cards, 3 cents each; 7 for 20 cents, or 10 for 25 cents.

Reports and Experiences

Early Fruit-Bloom

The bees have come through the winter so far all right. They have been quite busy carrying in pollen from the elms and the maples. I don't know whether they get any honey. Plum, cherry, and peach trees are almost in bloom—just ready to burst out. If frost holds off we will have a fine lot of bloom. Some of the soft maples were in bloom a couple of weeks ago, but the frost killed all of it. D. C. MCLEOD.

Pana, Ill., March 25.

Japan Clover Not Favored for Bees

On page 194, Dr. Miller asks who can and will tell "Pennsylvania" about Japan clover as a bee-plant. It is now about 23 years since Japan clover made its appearance here, and I have never seen a bee working on it. Being a bee-keeper I have observe closely what plants are honey-yielders, and I am sure that Japan clover is worthless as a honey-plant, at least in this locality. There may be places where it yields, as you know some plants are good honey-yielders in some localitles and worthless in others. It is a low-growing annual, and is a splendid fall-grazing plant, always maturing an abundance of seed to reseed itself, no matter how closely grazed.

Tupelo, Miss., March 9. J. D. ROWAN.

Expects Early Swarming

I live in the northwest corner of Grayson Co., Tex., and I think this country is very good. But last year was hard on bees here. I got some surplus honey. I have Italian bees and like them very much. Fruit-blooming time is here, and the bees are singing their sweet songs and are storing some honey. They are rearing brood in great quantities, and if nothing happens they will be swarming by April 25, and that is pretty early for this country. I rear my own queens, and have had good luck with them. I have all my colonies with young, prolific queens for this season. Alfalfa and cotton are our main honey-plants. I am keeping bees on a small scale, as I think that no one should jump into the bee-business before he knows what he is doing. I think every farmer should have a few colonies of bees, as they are not in the way, and they will bring him some sweet returns. C. E. ALEXANDER.

Gordonville, Tex., March 4.

Keeping Moth-Worms Out of Brood-Combs

On page 215, "Michigan" asked how to keep moth-worms out of brood-combs. My way is to take out the combs, clean off the frames, then wrap them up in newspapers about 3-ply, and tie them up closely. I have kept them for 3 years and had no moth-worms. W. H. HOBERT.

Fairport, Iowa, Feb. 16.

Construction of Bee-Cellars

I will give a description of my bee-cellar that I am putting the finishing touches on, and ask a criticism of its construction, if you find anything that calls for it.

The basement is nearly 8 feet deep, with brick walls. The floor is concrete, 6 or 8 inches deep, and then finished with one inch of cement. The side-walls are cemented about 6 feet in height. The size is 14½x22 feet, north and south, with one window in each end. I have a board chimney 8x10 inches out of each window, and on the outside extend-

American Bee Journal

ing up 8 feet, and on the inside down to within 6 inches of the floor. There is no ventilation above 6 inches from the floor. By tiering them up I could put 250 colonies in it. I expect to put 100 colonies in. There is a space of 16 inches between all the hives and the floor.

In 1887 I put 65 colonies into a similar cellar, 12x14 feet, with a wooden chimney 8x12, which came down to within 3 inches of the floor. I did not lose one colony, and every one of the 65 was fit to divide when taken out in the spring.

The bee-industry of Milwaukee county was a total failure last year. We hope for a good season this year. W. F. KENNICOTT.
Milwaukee, Wis.

[The first cellar mentioned ought to give good results, especially as a similar cellar did so well. As it is a matter of importance to provide as much as possible against changes from outside temperature, it might have been well to fur out and make a hollow wall, at least as far down as the wall is unprotected by the outside ground.—EDITOR.]

Good Wintering Record

I have just commenced taking my bees out of winter quarters. Last Saturday I took out 190 colonies, all alive. To-day I have taken out 140 colonies, 3 being dead. To-morrow I expect to put out another yard, and keep on until all are out. N. D. WEST.
Midddleburg, N. Y., March 26.

Early Pollen-Gathering

Four pretty days all right together, and the bees are bringing in pollen lively. They did it only once earlier than this in 20 years. That was on the 13th. S. A. MATSON.
Barnard, Mo., March 17.

CONVENTION NOTICES.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual convention at East Jordan, Mich., on April 10 and 11, 1907. Headquarters will be at the Russell House, where a $1.00 per day rate has been secured. IRA D. BARTLETT, Sec.
East Jordan, Mich.

Connecticut.—The 16th annual convention of the Connecticut Bee-Keepers' Associaaion will be held in the State Capitol, Hartford, room 50, on Saturday, April 6, 1907. We believe that every wide-awake apiarist in the State knows that our Association is unselfishly seeking to assist and protect the bee-keepers in every way possible. During the past few months apiculture has probably been more generally discussed than at any other period in the history of the State, because of our attempt to secure proper bee-disease legislation. Bee-keeping now, as never before, is regarded as an important agricultural industry in Connecticut, and our Assaciation proposes to continue its campaign of education. A lengthy program has been prepared for the next meeting, and it is expected that several noted speakers will be present. Every bee-keeper is cordially invited to attend. Please bring choice samples of honey, or anything of interest, for the apiarian exhibit. Membership in the Association is but 50 cents a year. We want 500 new members. Please make remittances to the undersigned before the date of the meeting, and be sure to come yourself. J. ARTHUR SMITH, Sec.
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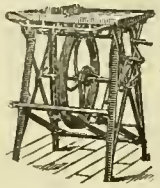

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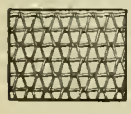

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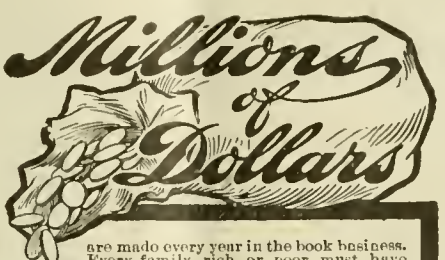

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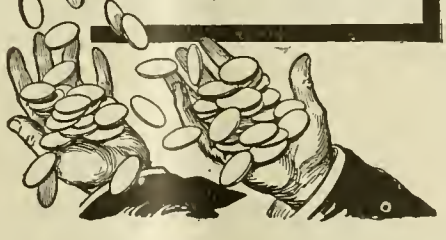

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Sections, etc. I sell Marshfield Mfg. Co.'s and Root's SUPPLIES at factory prices. 8 frame, ½-story, $1 35; 10-frame, $1 50; No. 1 Sections, $14; No. 2, $3.50. Send for 48-page price-list if you haven't one. With an order amounting to $15 or over I give 7 percent discount till May 10.

S. D. BUELL, Union City, Mich.

13A2t Please mention the Bee Journal.

Queens By uniting swarms from 1000 colonies Supplies

I sell queens at—1 queen, 25c; doz., $3. Also following supplies at ½ Root's prices: 1000 P. & I. fences; 1000 plain section-holders; 1000 4¼x4¼ plain sections; Daisy foundation fastener; 10-inch foundation mill; 200 10-frame wood-zincs; 2 doz. Porter escapes; 500 Hoffman frames. **R. M. SPENCER,**

4A16t **Nordhoff, Cal.**

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c, or $8 a doz.; Tested, $1, or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them. We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

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13A10t BEEVILLE, Bee Co., TEXAS.

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29 Years Means QUEEN Quality

100 pounds to the colony in a poor year, like last, and 280 to the colony the year before. My Italians are non-swarmers. Every queen purely mated or money back. Circular tells of Italian and Caucasian.

8Etf **A. D. D. WOOD, Lansing, Mich**

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The finest in the land from DANIEL WURTH & GRANT.

3-Banded, Red Clover, and 5-Banded Goldens.

The Goldens took First Premium at every Fair they were exhibited last year.

Prices:—Untested, $1.00 each; Tested, $1.50 each. Address,

DANIEL WURTH & GRANT
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☞ Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W. 6ESt

Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6Etf W. J. McCARTY, Emmetsburg, Iowa.

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American Bee Journal

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American Bee Journal

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Complete stock for 1907 now on hand.

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as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will Satisfaction Guaranteed.
SAVE MONEY BUYING FROM ME. Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 1.—The usual late winter demand is in evidence for comb honey to replace diminished stock laid in during the autumn by the large retailers, but during the dull period there has been very little change, if any, in prices, the offerings being light.

We find No. 1 to fancy white comb honey brings 15@16c, and for that which is off in color and flavor from 1@3c less. Amber grades of all kinds are dull and range in price from 10@12c. The extracted perhaps is not quite so firm in price for the California or Western grades, but there is no surplus of white clover or basswood, both of which bring about 8c, and in some cases more. Ambers grade from 6@7½c. There have been some sales of beeswax at 32c, but 30c is about the price for average.

R. A. BURNETT & Co.

PHILADELPHIA, Mar. 11.—The comb honey market has been quite active in the last two weeks, and the continual cold weather has kept things moving. Many cheap lots have been sent in from the producers, which have had a tendency to bear on the market and weaken the prices somewhat. Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted honey, 7@8c; light amber, 6@7c. Beeswax very firm, 32c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.

HILDRETH & SEGELKEN

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Mar. 11—There is very little demand for extracted honey at this writing, which is only natural, owing to the unsettled weather at this time of the year. However, we are looking forward with interest to a revival of trade, as soon as the warm spring days are here. We quote amber extracted honey in barrels at 6¼@7½c, the price depending upon the quantity purchased. Fancy table honey in crates of two 60-lb. cans each, at 8@9c. There is little demand for comb honey owing to the lateness of the season. Choice yellow beeswax, 32@35c, delivered here.

THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.

THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI, March 6.—The market on comb honey has been quite brisk the past week. Entirely sold out of fancy white. No. 2 is selling for 12½@13c. White clover extracted in cans, 9c; amber in barrels, 6c. Beeswax, 30c, delivered here. C. H. W. WEBER.

KANSAS CITY, Mar. 4—The demand for comb honey is only fair at present. The market is almost entirely bare of extracted honey. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted honey, white, per pound, 8@10c; amber, 8c. Beeswax, per pound, 25@27c. C. C. CLEMONS & Co.

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3Atf JAMES ISLAND, S. C.

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Liberal Discounts to the Trade.

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H. S. Duby, St. Anne, Ill.
6A14t Please mention the Bee Journal.

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IT EXCELS

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We handle every kind of Bee-Keepers' Supplies, and only the **very best.** Write us before selling your Beeswax or buying your season's Supplies. **Send for our Catalog.**

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Manufacturers of the Marshfield Bee-Goods

Watch for their Ad. Next Week

In the meantime do not delay sending them your orders, as they will fill them promptly.

47th Year APRIL 11, 1907 Number 15

AMERICAN BEE JOURNAL

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2. Dr. G. Bohrer, of Indiana.
3. A. H. Hart, of Wisconsin.
4. A. F. Moon, of Michigan.
5. Adam Grimm, of Wisconsin.
6. N. C. Mitchell, of Indiana.
7. Elisha Gallup, of Iowa.

(So far as known, Dr. Bohrer is the only one of the group still living—now in Kansas.)

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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are just the thing.

We send them by Return Mail

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AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

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We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

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Please write to Messrs. Gregory Dervishian & Brothers, Nicosia, Cyprus, for excellent **PROLIFIC MOTHER-QUEENS** of gentle strain. Price of each queen mailed to U. S. America and to Canada: $2.50. Safe arrival guaranteed. To Australia, Ceylon, India, etc., $3. Safe arrival guaranteed. Send International Money Order.

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Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

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2-frame Nucleus with Tested Queen for June delivery, $3, f.o.b. Milo.
Light or dark Italians at choice. No disease. Safe arrival and absolute satisfaction guaranteed. I will send 1 ounce of Catnip Seed free to each of the first 25 ordering Queens to the amount of $2 00 or over.

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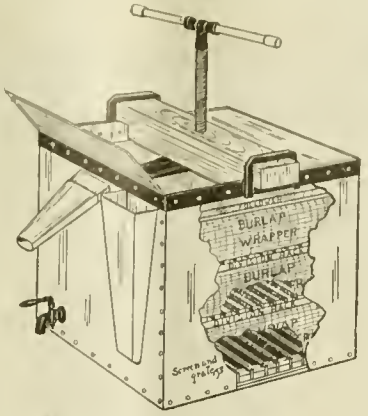

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American Bee Journal

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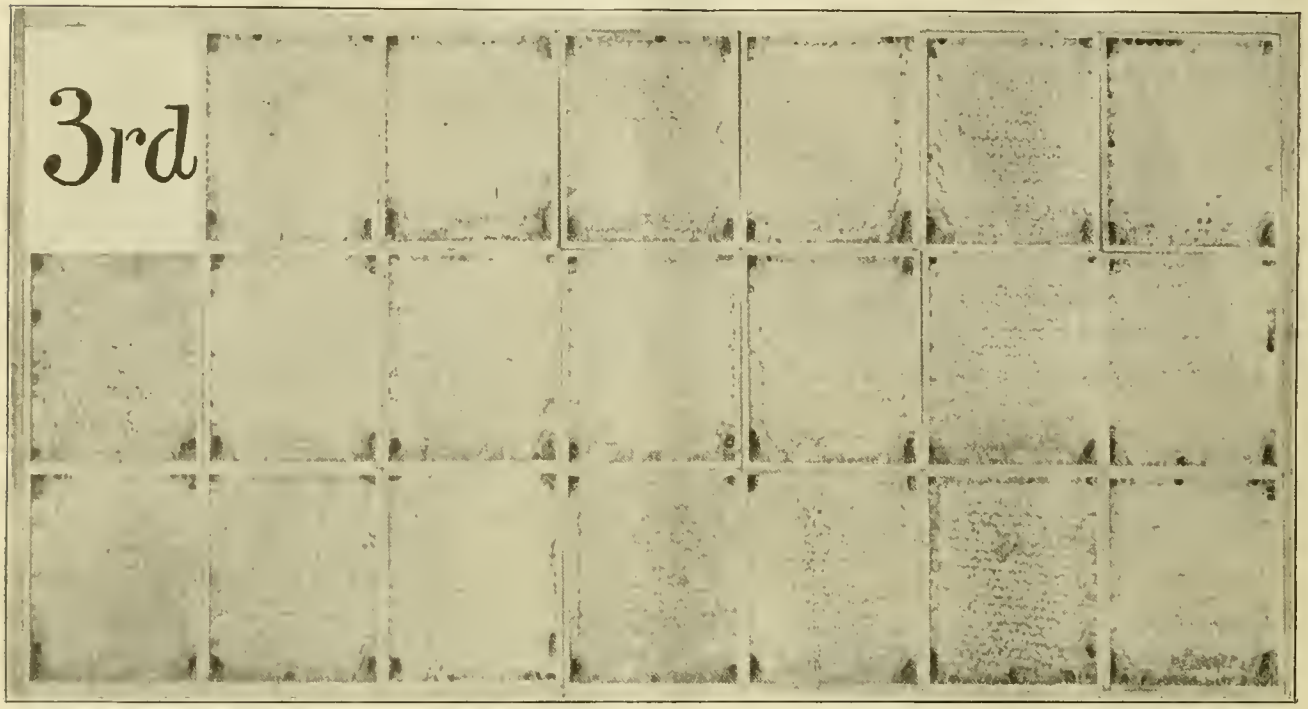

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Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL 11, 1907 | Vol. XLVII—No. 15

"Keep Your Colonies Strong"

This motto, under the title of Oettl's Golden Rule, is given in the closing paragraph of Langstroth's classic work as the essence of all profitable bee-keeping. It is generally agreed that the strong colonies are the profitable ones; and probably few would dispute the statement that 2 colonies of 30,000 bees each will not store as much as the united force of 60,000 bees in one colony.

Yet some modify the motto by saying: Know the honey-resources of your locality, and have colonies strong for the harvest; but do not have a lot of bees reared to come upon the stage as a lot of idle consumers when there is nothing for them to do. Certainly it ought to be worth while to avoid needless consumption, when it is considered that the annual consumption of a colony is somewhere from 100 to 200 pounds of honey. But when we come to particulars, the problem does not seem so easy. It is not easy to tell in advance at what time a given plant will be ready to offer its nectar, nor indeed whether it will offer any. If one knows about when a flow may be expected, one may figure when the queen should lay eggs to be ready for it; but how is one to manage to have a small force in the hive during a dearth between two flows? Those who can so control matters as to have a strong force when a flow is on, and a strong force only then, are wise to use such control; the average bee-keeper will do well to get his colonies strong as early as he can in the season, and then try to keep them so.

Narrow Frames for Extracted Honey

E. D. Townsend says in the Bee-Keepers' Review that manufacturers list no proper frame for extracting purposes, which, he thinks, should have neither top-bar, end-bar nor bottom-bar more than ⅞-inch wide. He says:

With this style of frame in our supers, spaced 1¾ inches from center to center, we get great, fat combs; then, with a long uncapping knife, cut clear down deep, clear to the frame. In this way we get more wax in the uncapping tank; but the greatest advantage is, we can uncap a whole comb at *one stroke*.

That seems reasonable, and perhaps there's nothing original about it. But did you ever think of such narrow frames as affecting the *quality* of the honey? Here's something well worth thinking over:

In producing honey for exhibition purposes, we insert full sheets of foundation in between our extracting combs, in the supers of some of our most powerful colonies; and, after quite an experience along this line, we have never found a better way to produce a superior article of extracted honey. While it would not be practical to produce all our extracted honey direct from foundation, the next best plan is to fill our supers with these *deeply* uncapped combs. With these the cells are only about half an inch deep; and this drawing out of the combs when being filled with honey, gives the bees an opportunity to cure the honey *nearly* as well as they would in drawing out foundation. Never give *thick* extracting combs during a heavy flow of honey.

How Much Nectar Per Acre?

The man who should make out a reliable table showing the number of bees that could be supported upon each one of the more important honey-plants on a given surface would be entitled to a high niche in the bee-keepers' hall of fame. The data are so changeable, so elusive that no one can say with any degree of certainty how many acres per colony are needed in any given case; and the worst of it is that with the passing years we seem to be making no progress in gaining the desired knowledge. Here comes a note from Dr. Miller, saying:

"MR. EDITOR:—Before we get to blows will you please settle a little matter between Mr. Atwater and me? On page 208, he takes exception to my guess that 200 colonies might have good picking on 300 acres of white clover if said white clover happened to be in the mood of yielding. He doesn't say just what the figure should be, but evidently he thinks I expect too much of white clover. Which of us is right?

"I may say to you privately that after getting a little additional light from his article, and after thinking over the matter a little more fully, it begins to seem to me that he's nearer the right of it than I am; but please don't side with him any more than you have to, for I don't want him to crow over me too much. The only datum I can give you on which to work, is a rough guess at how thick bees are on a piece of white clover when bees are doing good work on it. Of course, it can only be a rough guess; but just as I now recall, I should say that when bees are 5 feet apart all over the field they are doing good work."

It is not an easy thing to decide between two guessers, with no foundation to work upon except a single item, and that a guess. Other things being equal, Mr. Atwater ought to make the closer guess in the case, for "Utah's" conditions are probably more like conditions in Idaho than in Illinois. Certainly in Illinois, when "hundreds, or even thousands, of acres of as fine white clover as one could wish, are covered with a mass of bloom" covering a period as long as "during part of May, often all of June, with more or less bloom for many weeks later," one would expect as a rule good crops, whereas in Idaho Mr. Atwater says they are light.

It may be well in passing to note the one point on which Mr. Atwater makes a definite guess. It is that in favored locations each acre will support one colony of bees, provided 10 percent of it is covered with sweet clover and the other 90 percent with alfalfa. That guess stands till some one gives reasons for a different one, and it is of value, even though somewhat vague.

As between white clover and alfalfa, it may be mentioned that unless a field of alfalfa is used for raising seed its seasons of bloom, however abundant, are likely to be short, the mower being likely to level it as soon as it is of most value, if not before; whereas white

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clover, being subjected almost entirely to grazing, yields continuously for weeks.

Coming directly to the case in hand, let us do a little figuring, estimating that 20,000 field-bees belong to each colony. If 200 colonies are working on 300 acres, that makes 1½ acres for each colony, or for each 20,000 fielders. In 1½ acres there are 65,340 square feet, giving 3.27 square feet to each bee; so if they are evenly distributed over the field they will be about 1 foot 10 inches apart. If we take Dr. Miller's guess of 5 feet apart, each bee will require 25 square feet of territory, making for 20,000 bees 500,000 square feet, or nearly 11½ acres. According to that, instead of 200 colonies for 300 acres, only 26 colonies would be supported on that number of acres.

If Dr. Miller doesn't like the decision, he must either make bees work with less elbow-room than 5 feet, or else he must show that 20,000 is not the right estimate for the number of fielders in a colony.

"Honey" from Buttermilk

In Praktischer Wegweiser it is related that in a North Germany newspaper an advertiser offered for the modest sum of 28 cents to send a recipe by which one could easily make out of a quart of buttermilk 2 pounds of the finest, best-flavored honey. The enterprising editor sent the required amount, and then published in Prakt. Wegweiser the recipe verbatim. Explicit instruction is given as to the right kind of vessel in which to cook the honey, and just how to stir, etc., one item being that to each quart of buttermilk must be added 1 pound of sugar! We may expect to hear shortly that German bees are cut out of business!

Cleaning Up Wet Extracting Combs

Sometimes when wet extracting combs are given back to the bees to clean up, instead of carrying the honey all down into the brood-chamber, the bees mass it in a few cells of the extracting combs. H. Potter says in the British Bee Journal that he makes sure of having the extracting combs left entirely empty by returning them to the bees upside down. Not many, however, will find it necessary to resort to such an inconvenient method.

Reversed Brood

According to an item in Prak. Wegweiser, the occasional finding of brood with heads in the bottom of the cell is due to the presence of minute parasitical insects, which trouble the larvæ and cause the abnormal position.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Miscellaneous News-Items

A Bee-Keeper's Epitaph.—Mr. R. B. Ross, Jr., of Quebec, Canada, sends the following clipping taken from the Rochester (N. Y.) Herald, referring to the epitaph of a man who was stung to death:

Among the many curious inscriptions that are to be found on the tombstones that mark the last resting places of some of the early pioneers of the town of Manchester, one of the most curious is in what is known as the old Greenhouse cemetery, on a tombstone erected in 1814, to the memory of Timothy Ryan. On May 12, 1814, he was attacked by his bees and stung to death. The following epitaph appears on his tombstone:

A thousand ways cut short our days,
None are exempt from death.
A honey-bee by stinging me
Did stop my mortal breath.
This grave contains the last remains
Of my frail house of clay;
My soul is gone—not to return—
To one eternal day.

Bees at the Jamestown Exposition.—Mr. Charles Koeppen, of Fredericksburg, Va., has been granted a concession by the Jamestown (Va.) Exposition Co. to make a demonstration with live bees in a wire-cloth cage, and also a motion-picture apparatus in addition to the privilege of selling standard bee-books. Mr. Koeppen is erecting a structure 30x50 feet, and the whole display, when installed, will cost him about $1400. The price of a single admission to this part of the Exposition will be 10 cents.

We can not conceive of anything better to advertise the bee and honey business than what Mr. Koeppen has undertaken to do at the Jamestown Exposition. We hope to hear of his success all through the months during which the Exposition will be opened. Of course, every bee-keeper who attends it will be sure to take advantage of Mr. Koeppen's demonstrations.

Honey and Noisy Enthusiasm.—The Youths' Companion contains the following which seems to have a lesson in it taken from the bees:

HONEY IN IT.

When the Salvation Army first came to America, 25 years ago, says the author of "The Prophet of the Poor," it found a ready advocate of its methods in the Rev. Thomas K. Beecher. Mr. Beecher had just had a lesson, in parable form, from a certain "Bro." Anderson, which he never forgot.

Brother Anderson was at that time the pastor of a colored congregation which was noted for the noise and enthusiasm of its services. Incidentally the old man wielded a whitewash-brush, but he was known as an exhorter of no mean ability. One day he persuaded Mr. Beecher to address his congregation.

The occasion seemed a good one for reproving the congregation for their uproarious methods, and Mr. Beecher did so. "Let all things be done decently and in order," he concluded. Then Bro. Anderson rose to speak.

"I love Brudder Beecher; I love to hear him preach dis afternoon," he said. "He's our good frien'. And he say dat some folks goes up to glory noisy'n' shouting, and some goes still like, 's if they's ashamed of what's in 'em. And he say we better be more like de still kind, and de white folks'll like us more. He say de boys and gels stan' in de do'way and laugh at us, and mock at us 'cause o' de way we goes on.

"Yas, I see de boys and gels stan' all las' winter roun' de door, an' under de windows, an' laff; and dey peep in and laff. But I 'member what I saw las' summer among de bees.

"Some of de hives was nice an clean an' still, like 'spectable meetings, and de odders was a bustin' wid honey. De bees kep' a-goin' and a-comin' in de clover; and dey jes' kep' on a-fillin' de hive till de honey was a-flowin' like de lan' o' Canaan. An' I saw all roun' de hives was ants and worms an black bugs, an' dey kep' on de outside. Dey wa'n' bees. Dey couldn' make de honey for darselves. Dey couldn' fly to de clover an' to de honeysuckle. Dey jes' hung roun' de hive and lib on de drippin's.

"So de boys an' gels hang roun' yar. Come in—we'll show you how de gospel bees do. Come in an' we'll lead you to de clover.

"You won't come in? Well, den poor things, den stan' roun' de outside an' have de drippin's. We's got honey in dis hive."

"As he spoke," said Mr. Beecher, "I seemed to see my own sermon shrinking and fading away."

To Foreign Subscribers.—We wish to say that none of our special offers apply to foreign subscribers, on account of the extra postage, except Canada, Mexico, Cuba, and the United States possessions. Also, we send to foreign countries only the American Bee Journal.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

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Conducted by Louis H. Scholl, New Braunsfels, Tex.

The "Sages" of Texas and of California—Color of Sumac Honey

Mr. Louis H. Scholl:—I notice in your department of the American Bee Journal (page 90), a letter from J. E. Chambers, in which reference is made to sage honey as *dark*, and I inferred that sumac yielded white honey. With me sage is the principal source of surplus, and if taken off before other honey is mixed with it, it is *water-white*, and the finest-flavored honey in the world. I think sumac comes later, and is amber. Soon tarweed comes in, and the honey is then darker and considerable off flavor. I have black or button sage and white, coming in the order named, 2 or 3 weeks apart. The black sage yields the whitest honey. Can you account for the difference? A. J. Burns.

Lusardi, Calif., Feb. 5.

Mr. Burns' letter was forwarded to Mr. Chambers for reply, which is given here:

Mr. Louis H. Scholl:—I note what you have to say about the different local names for plants. I am sorry indeed to learn that any one could be misled by such trifles. I have always known that the little common sage, found to a great extent all over Texas, was not the same as the white, blue, and black sage of California, and I have never said that it was. While I am no botanist, there is no man in Texas who watches the different flowers more carefully than I do, and I think there are few who follow the bee-papers more closely. This being true, I would indeed be a pretty one not to know the difference between these plants.

The sage we have here is a small bush—red sage with dun-colored flowers; and white sage with larger leaves but flowers of the same color; the leaves of a strong mint flavor. I know you have seen it. In this locality it blooms in the latter part of June, and in seasonable years until August, and yields a very dark, strong honey, in Southwest Texas. There is a large kind common to East Texas. It has a seed-pod, which, when broken, shows two flat sides and a round side. It is dead at this season, but I am sending you a lot of the dried leaves. Now, this is about all I know about it, and, though not much, is perhaps sufficient to enable you to identify it. I am also sending you a sample of the honey from it.

I note Mr. Burns says that sumac is amber in color; it may be in his locality—I can't answer for California. I am not keeping honey records for that part of the country, but here it is, if not white, so very close to that color that we all call it white. I saw sumac honey at San Antonio, but none of it was as light as ours when pure; however, as you know, it is not often that we can get honey that is absolutely free from any admixture. I think there are but very few apiarists who know how much bees move and change honey about in the hives, and this is one reason why it is so hard to get honey all clear of admixtures. And you know how impossible it is to get every particle of honey out of the combs when extracting, or even to uncap every cell. The only way I could ever be sure of getting all honey from a given source was to hive a swarm on starters during a flow, and when there was only one kind of plant in bloom such swarms, if given combs that are new, will, of course, get all the honey from the desired source. But time must be given for them to use up the honey that they carried in their honey-sacs before the new combs are given, or else an admixture will result.

Vigo, Tex. J. E. Chambers.

In writing to Mr. Chambers I mentioned the inadvisability of using common or local names when speaking of honey-plants of different localities, as a name may mean one thing in one locality and quite another thing somewhere else. I believe there is hardly anything else in this respect like common names of plants. Just as it happened, that what was called "sage" in Texas was not the sage of California, so well known to the bee-keepers. Here in Texas it is exactly one of those cases of using common names wrongly for plants that do not obtain that name in botany; hence, such names can not be relied on, and should never be used unless the name is a universal one, and means one and the same thing everywhere.

Instead of the real sage of California, that mentioned by Mr. Chambers is not a sage at all, but a croton instead, belonging to the Spurge family (*Euphorbiaceæ*). These crotons are quite common in our State, and there are many species. That referred to as "red sage" is very probably *Croton glandulosus*, L., while the "white sage" is *C. texensis*, Muell, or Texas Croton. The one of eastern Texas, spoken of, is *C. capilus*, Michx., a large croton. I have seen bees on all of these, but the "red sage" seems to give more honey than the others, at least in the localities where I have observed it.

Here is an instance again that shows that it behooves us, as bee-keepers, to study botany, or at least so much of it that we may be able to know our honey-plants by their right names. The study of botany has not only been valuable to me in my bee-keeping, but of great interest as well.

One of My Inspection Trips

The picture here shown is a reminder of one of my trips of inspection, and shows to some extent the hospitality shown "the inspector" upon this occasion, quite different from some of the experiences on other occasions.

The bee-keepers involved here, instead of objecting to such inspection of their apiaries, not only willingly allowed this, but insisted not only on a thorough inspection but thorough treatment. "The inspector" was met at the train by them, taken to their homes and cared for. Then preparations were made for the extended overland trip to inspect the apiaries from 25 to 30 miles west of the town, and lasting over a week. The picture shows the inspection party in one of the "camps." Over 2000 colonies were examined, but only two cases of disease were found, which, only a short time before, had been imported into the neighborhood with a lot of bees shipped from another State. These cases were promptly dealt with and eradicated, thus leaving the district free of the disease.

Another Kind of Inspection Work.

Location and Management—Not the Hive

I'll tell you, the location and management have more to do with the yield of honey you get than the kind of hive you use, supposing, of course, you use one of the many frame hives on the market to-day.

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A Great Difference in Localities.

I have just returned from a visit to all of my out-yards—3 in number. The bees in No. 1, about 4 miles from home, seemed to be getting a living from fruit-bloom; only 22 colonies in this yard.

Yard No. 2 is 10 miles from home, and has 66 colonies; but the bees at this yard were very cross, and much inclined to rob. There is no fruit-bloom to speak of within 3 miles of these bees.

Yard No. 3 is about 13 miles from home, or say 3 miles the other side of yard No. 2. This yard has 49 colonies, and is almost surrounded by fruit of various kinds, mostly wild fruit. Here I found the bees roaring, and rushing in and out, as if a real June honey-flow were on. And the bees were evidently gathering honey fast for the time of year.

I have given the above so that the readers can see what a difference only a few miles will often make in a location.

Field-Bees Storing Nectar in the Cells.

The American Bee Journal comes out with the positive assertion that the field-bees deposit their loads of nectar directly in the cells themselves, and that it is not given to the young or nurse-bees, in the way we have been taught. In this we will have to agree to disagree with that observer, or else his bees act differently from our bees of Texas. I have watched the field-bees deliver their loads to the nurse-bees hundreds of times, and have never yet seen the field-bees go direct to the cell and deposit their loads of nectar. This may not be of much importance, but it is at least very interesting to me. I should like to hear from some of our more scientific writers on the subject.

L. B. Smith.

Rescue, Tex., March 20.

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Taking Bees Out of Cellars.

So Mr. Doolittle, although he has a wheelbarrow with springs, prefers to obviate jars still further by padding the top with folded bed-quilts. With such an arrangement he successfully wheels bees around in July and August. His *modus operandi* of getting bees out of the cellar is perhaps as good as anything published; and yet one kind o' feels that there is something yet to be desired. Would it be worth while to have wet cloths enough for all the entrances, and to put them all on at once? And would a bountiful supply of thin ice be worth saving up (putting it in the ice-house); and slide a dozen square inches of it into each entrance as the cloths are put on? I don't winter bees in the cellar, and so don't draw on much experience in making these suggestions. It seems whatever bees do get out near the cellar-door hang around there, and most diligently attend to a business which even hardened old bee-keepers don't altogether admire. I believe Mr. D. didn't mention open doors the night before, which (under some conditions) is said to help, if my memory serves me right. Page 148.

Inferior Wax from Steam-Presses.

This remark of Mr. Byer is not often printed, if at all: "For some reason wax from the steam-presses is never of as good a quality as that obtained by other means." And we shall look forward with interest to see what the 2 years' supply of slumgum pans out in the Hershiser press. Page 150.

Cleaning Sections Rapidly.

"Colorado's" experience is instructive to all that hire help to clean sections, and probably to all of us. Taking the sections out and placing them in a pile so the scraping can proceed steadily just doubled the amount done. Even if we don't hire we find with ourselves that too much changing from one thing to another is wasteful of time. Page 151.

Too Thin Bottom-Boards.

Yes, Dr. Bohrer, I have already reproved the manufacturers who give us the too thin bottom-boards and such. Or was it the size of the "lump o' sweetness" you would have us seek that you wanted me to endorse?—not less than 80 pounds nor more than 300. If 300 pounds of "honey" be desirable, why not 400 pounds be more desirable? Tell me that. Page 168.

Lower Freight-Rates on Honey.

Is that the way you give it to them, Mr. Greiner? Men are indeed selfish; but most of them *can*—if you go at it in the right way, and keep at it long enough—be made to consent that their fellow men shall receive *justice*. The idea is that our Western brothers are working to be relieved from unjust classifications and unjust rates. Let's not dump any logs and boulders in their road until they ask for something more than justice. The case of wheat transportation you mention is not exactly parallel. Most well-wishers of the human race (except possibly those whose own toes are pinched) favor the lowest possible rates on wheat, that the poor may have bread as cheaply as possible. No similar consideration works in favor of honey; and it is not likely ever to get into the specially-favored class. Page 168.

Swarming and Energy.

C. W. Dayton seems to run his pen through a troublesome truth when he says, "This swarming disposition is an indication of energy. If they lack this energy they will fall short of energy for other accomplishments." Perhaps the case is not *quite* so bad as that. I think *some* cases of disinclination to swarm occur among bees of the most energetic character. Page 169.

Hive-Entrances in Outdoor Wintering.

The experience of P. E. I., that a heap of little spruce-boughs piled over the entrance turned out the best of 7 different ways of doing—that novelty is fresh and toothsome. Such boughs will not wad up and obstruct passage as grass and leaves do. Lots of us may some time have opportunity to profit more or less by this if we do not forget it. But covered up deep in snow for all the latter half of the winter—don't believe I would risk that, not even with the boughs underneath. Too much temptation to breed themselves to ruin. Page 174.

Yarns Domestic and Foreign.

Those two yarns of the London Tribune and the Minneapolis Journal furnish a good "tit for tat" between bee-editors on two sides of the Atlantic. But there is this much to be said in favor of "we'uns:" The Yankee yarn was not intended for full belief, while the British yarn was. As to the latter, we have scarcely had so fine an example of how many times the mere writer will "get his foot in it" if he reads up about bees and then tries to write about them. Page 186.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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Spring Management of Bees

BY G. M. DOOLITTLE.

In a letter lying before me I find these words:

"Will Mr. Doolittle please tell us through the columns of the American Bee Journal what should be done from early spring to the first flow of nectar which gives a surplus, which is white clover in my locality? I winter my bees in the cellar, and I wish you to begin with the setting from the cellar."

Some of the articles which I have written lately cover much of this ground, but perhaps I can make matters a little more plain if I try again. As I take it for granted that the questioner has only his one home-yard of bees, I will tell, or answer, him from that standpoint, rather than from the standpoint of out-apiaries. I always set out my bees at the home-yard alone, so have a spring wheelbarrow with a few thicknesses of old carpet or old blankets on it, so that the bees will experience no jar from running the wheelbarrow rapidly. This padded barrow and a lighted smoker are left at the door of the cellar, when the cellar door is carefully opened and I quickly step in, bringing out the hive nearest the door, and placing it on the wheelbarrow, quickly shutting the door again, so that those remaining in the cellar may not be aroused by the light and outside air coming in on them.

The bees in the hive now begin to realize that their long winter nap is at an end, and if I took no precautions, they would be out of the hive and in the air before I could wheel them to the stand they were to occupy, many of them losing their home, and stinging me badly. To avoid this, I blow 4 or 5 puffs of smoke in at the entrance, closing the same by putting a wet cotton-cloth of suitable size sufficient to cover it without any special work of tucking it about, when this colony is rapidly wheeled to where it is to stand for the season. A few more puffs of smoke is given them, when the hive is set upon its stand and the entrance adjusted to suit the size of the colony, which can be very nearly told by the amount of buzzing that occurs on the blowing in of the smoke.

With this treatment the bees will commence to fly as leisurely as they would had they been on the summer stand all winter, and mark their location as perfectly, so that we have no mixing of bees, etc.; while, had not the smoke been given they would have all piled out of the hive with a rush. This going out slowly is of great advantage to them in marking their location and repelling robbers.

As soon as set out, the next work is to see that all have plenty of stores; and if in a tight-bottomed hive, clean off the bottom-boards. As I use a loose bottom-board it is placed on the wheelbarrow to set the hive on, so I do not have to disturb the bees afterward on this account.

To find out about the honey or stores, the first cool morning go to the hive, take off the cover, and carefully raise the quilt or honey-board, and look for sealed honey along the top-bars of the frames. If plenty is seen they are all right till they are to be carefully looked after 3 weeks later. If little or none is seen, they must be fed; for, if we are to reap good results from our bees they must have plenty of stores at this time of the year to encourage brood-rearing.

For feeding at this time, I prefer combs of sealed honey set in next the cluster, to anything else; and it should be the duty of every apiarist to set apart combs from the extracting hives each year, which are filled with honey, sealed over, especially for this spring feeding. If none such can be had, we must feed sugar syrup, or liquid honey, if we have it; but the feeding of liquid sweets, thus early in the season, entices many bees out to perish in unfavorable weather, and tends to promote robbing, beyond anything else.

Three weeks later the hives are to be opened generally for the first time, the goodness of the queen looked after, and the amount of stores on hand, and to see that the brood-nest is located in the center of the hive. For years I have noticed that brood will not go forward nearly so rapidly where the brood-nest is located next to one side of the hive in early spring, for as the bees increase their brood, it seems natural for them to do this from either side alike, and where the first brood is reared but one or 2 combs away from one side of the hive, after a little they can only extend the brood in one way, on account of the other side of the brood-nest reaching the side of the hive. Where I find brood thus located at this time, I always set it over to the center of the hive, and whether I so find or not, I now place 2 combs which are the fullest of honey next each side of the brood-nest, one on either side, which helps brood-rearing along amazingly.

The great trouble in forcing early brood-rearing, so as to have it in time so that the maximum amount of brood shall be emerged into bees in time for the harvest of honey from white clover, seems to be to get the bees to feed the queen prepared food in sufficient quantities so that she will lay prolificly quite early in the season; and the placing of combs of sealed honey next to the bees in this way causes them to remove the honey as brood-rearing goes on, and, in thus removing, more food is prepared than would otherwise be the case; and having the food prepared, the queen is liberally fed.

The scrimping of honey in any colony now, is to be "penny wise and pound foolish," for unless there is either plenty of honey in the hives, or plenty coming in from the fields, brood-rearing will go slowly, which means comparatively few bees in time for the harvest. I want as much as 20 pounds of honey to each colony at this time of the year, so that they will not scrimp in feeding the queen or the larvæ now.

As it is about 37 days between the time of the laying of the egg and the time the worker-bee goes out as a field-laborer, I try, if possible on account of weather, to have all the colonies fixed as above 6 weeks before the white clover opens enough for the bees to work on it to advantage.

As the colony increases in size, the entrance should be enlarged so that there is no crowding out of the bees, nor any great amount of fanning done at the entrance. In all of this work with the bees, it is well, each time a hive is opened, to see that it is closed as tightly as possible, so that no cracks are left to allow the wind to blow into the hive, or heat from the hive be carried out into the outer air. To be sure, the bees seem to be able to confine the most of the heat inside of the cluster, but, in a certain sense, the warmer the hive, the more brood there will be reared. The bees seem able to raise the temperature inside the cluster up to the breeding-point, which is about 95 degrees above zero, while that surrounding this cluster is only 40 to 50; but, as a rule, the higher the temperature on the outside of the cluster, the more brood will be reared inside the same. Therefore it is always well to lay emphasis on the matter of keeping the interior of the hive as warm as possible during the spring months.

Borodino, N. Y.

Queen-Rearing and Nucleus Management

BY F. L. DAY.

On page 194 Dr. Miller and "Iowa" discuss my method of queen-rearing, as briefly mentioned on page 7. In justice to them as well as to myself, I will explain the matter more fully.

Dr. Miller suggests that my failure to secure laying queens in the 4 nuclei in question, was because of commencing too early in the season; but such was not the case, for I obtained a laying queen in each of the 4 nuclei from the first lot of cells given them. The trouble came later.

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The doctor also says in his answers to "Iowa's" questions that it would have been as well to have hung the West cell-protectors and spiral cages containing queen-cells between the brood-frames of any colony. Perhaps so with his bees, but not with mine, as I will show further on.

On May 29, 1906, colony No. 11 had a 2-story hive containing 20 good combs, 11 of which were well filled with worker-brood. On that date 3 frames of brood and bees, together with the queen, were taken out and placed in a new hive to form a nucleus for increase. The 8 frames of brood remaining and 2 frames of honey were then put in the lower story, and the upper story removed.

On June 7th, 6 frames of brood and bees were taken from No. 11 to form the 4 nuclei having only one frame each. To this one frame was added one comb of honey from No. 11, the same being well covered with bees. Each nucleus had several queen-cells now nearly ready to hatch. A laying queen was secured in each nucleus from these cells, 3 of them being excellent, the other worthless. The 3 good queens were taken away and used where needed, the poor one being killed. So far all right according to program, but these 3 laying queens were both the first and last, obtained for many weeks.

When I restocked the 4 nuclei with ripe queen-cells, I put one or 2 cells in the West protectors and spiral cages combined, in each nucleus. I put honey in the cup which fits in the lower end of the cage, so that the virgin queen could have it to eat in case the bees did not feed her. At first I put only liquid honey in the cup, and some of the queens went into it head first and drowned. Then I mixed a little comb with the liquid, which made it safe. Some of the virgins were left in the cages a number of days and consumed nearly all the honey. Now note the results.

If I secured a nice lot of virgins in a nucleus, then there was no laying queen to be found. On the other hand, if there was a laying queen, then the virgins in the cages were so neglected as to die or become chilled and worthless. It took me some time to understand this. I kept the nuclei all stocked with bees and got all the virgin queens from them that I needed. I am well aware that as a rule queens should be fertilized in nuclei, and then introduced to full colonies, but I did not have enough nuclei, and the virgins answered my purpose about as well. Most of them were given to full colonies from which the queens had been removed to prevent swarming. These colonies were filled to overflowing with bees, and had from 6 to 10 frames of brood to hatch. A caged virgin was given 8 to 10 days after removing the old queen. Two days later the virgin was released. By the time she got to laying the bees were over the swarming fever. In case the first virgin given was lost, no great harm was done, for the colony had bees enough to carry it through the honey season, which usually ends here from the 1st to the 10th of August.

After robbing colony No. 11 so severely, it might be supposed it would not amount to much, but it built up strong and gave me about 60 pounds of surplus honey besides being heavy with stores for winter.

Detroit, Minn.

No. 2—Things to Do, and Why

Spring Management Continued—Getting Brood—Stimulative Feeding—Retarding Swarming—Making Nuclei

BY R. C. AIKIN.

In the last article I closed with the question of clipping, this work being done with the first spring work when bur-combs are being cut off and all made slick and so the combs can be easily and quickly handled. But as it is not necessary that queens be clipped until the swarming season is almost on, I never spend any great length of time hunting if a queen evades me; still, the longer it is delayed when the colony is getting strong the harder the job.

In order to get somewhat of an approximate date or time when things should be done, I will suppose the honey-flow when surplus and super-work is to begin, June 15th; each reader varying the times to suit location when applying the principles. And let me repeat that what I describe will be true of any location where the conditions are the same, but, if you have other factors, remember that just so surely as a mathematical problem is changed by bringing in a new factor or changing the relations of the same factors, so the change of order or number of factors with the bees will change results. The bee is not a reasoning creature as man, but follows instinct. The apiarist is ever a varying quantity—does things because of some whim or notion growing out of his reasoning faculties, and his action may be wise or otherwise—you do not not know where to find him; but the bee you know where to find, and what it will do, if you know its nature and can correctly reason and analyze the problem.

Throughout this spring management the object sought after is the largest possible force of workers. I know there will be a few who will take issue with me and say it is possible to get too many bees in a hive before the honey-flow arrives. Well, suppose we admit that in a given hive we may possibly get too many bees; the remedy is to use them elsewhere—there are always places where they can be added to strengthen weak colonies, or they may be made into new colonies, or in some way kept awaiting the flow. The cost of a bee is in its maturing or producing, and not in its maintenance after grown. For a June flow in temperate-zone latitudes you cannot possibly get too many workers produced prior to the flow, so get as many as possible.

The question of well-bred stock as against poorly-bred, needs no argument; there is such a vast difference between a stunted, skim-milk calf and a new-milk, well-fed one; the same principle in horses, pigs, chickens and all our domestic stock. Same thing also of poorly-bred farm crops of all kinds, and just as true of bees. A stunted, skim-milk queen cannot be the equal of a well-nourished one, both in the making of the queen in the first place and in her care while in service of egg-laying. But if you have the poor ones in the spring you must put up with them until you can remedy the defect—make the best of all queens in preparing for the coming crop season.

How to Get the Largest Amount of Brood.

I have previously spoken of the fact that queens will start brood in January, more in February, and all should have some brood by about March 1st in outdoor wintering, in latitudes of Denver, Omaha, St. Joseph, Mo., Chicago and Indianapolis. In the early spring, and until the colony can begin to cover several combs, not very much can be done except to have the colony as warm as possible, plenty of stores within easy reach, but yet as much empty comb close in about the brood as the queen may be induced to lay in. How much she lays depends upon her vigor as a well-bred, strong individual; upon whether she be in her natural, youthful vigor or failing with age, how well she is fed and coaxed as it were by the workers; upon the supply of pollen and nectar both in the hive and in the fields; and upon the bees' ability to forage and lead an active life. While the stores within the hive are good, yet they are not nearly so good as that which is being daily gathered from the fields.

I have seen many a colony with plenty of stores—yes, too much of them. Remember that brood is reared in combs where there is neither honey nor pollen, and when a colony has to uncap and move honey to give the queen room to breed, they are honey-bound. At times it is well, yes one of the *best possible* things to do to have them *move honey;* the more honey a colony handles, either strictly within the hive or from without, the more brood will be produced, provided the queen is allowed plenty of cells in the right place as fast as she can and will use them. Right temperature, new pollen and nectar coming in just fast enough so the colony never gets much ahead (say 2 or 3 days' supply), yet are kept busy all day and every day, is the ideal condition which will give the greatest amount of brood. Approach such condition as nearly as possible, and you will see much brood, which means much working force.

But some localities do not furnish nectar and pollen early, or continuously, when we want the best results in breeding, and we may stimulate by artificial means. Just how far what is known as stimulative feeding can be profitably used I am not prepared to say. This kind of feeding is to give a limited supply daily or each alternate day; but this takes considerable time and care, and

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what is called "fussing." I have many times fed, and that lavishly, in the open air, but I never tried daily feeding. The colony must have enough at all times, but better a limited amount than too much if the brood-chamber is small; with a large chamber, that will hold lots of stores and still give the queen ample brood-room, then much stores do no harm. I am an advocate of *large brood-chambers.*

THE MANIPULATION OF STORES.

Your colony usually starts the brood-nest near the entrance. If the entrance be the sunny or warmest part of the hive the brood will almost certainly be there. Now if there be no nectar or pollen coming in sufficient to stimulate, it is best to cause the bees to handle honey within the hive; they ought to "get busy," for a busy colony is the one that "gets there" with breeding.

Open the hive, and you will find the brood in the front end of the combs, with usually honey, in the back end. If the colony has brood in say 2 combs, or even 3, and about as much brood as they can cover and care for, just reverse these combs, putting the honey forward; this does not spread brood but puts honey to the entrance, and they get busy moving the honey and will put it back from the entrance. The colony will also stretch toward the entrance, both to guard and in getting outside, yet they will not pull from the brood faster than they can do so safely, but as fast as more comb can be covered toward the entrance it will be done, and occupied with brood. The moving of that honey has caused better feeding of the queen, which means increased desire to lay; has also fed the nurses better, and results in better feeding of brood, and so makes a faster and healthier growth of the colony. The extra effort in moving the honey produces more heat, because of the activity. This, of course, causes the consumption of more stores, but the honey-returns later will pay, by far, better interest and profit than if you had kept the honey, or than to have sold it and put the money in the bank. Activity and good feeding are the foundation on which rapid breeding rests.

If my premises are correct in the foregoing, then it is most likely that stimulative feeding—that is, daily feeding by supplying feed from without—would not be profitable; but to cause the workers to load their sacs and handle stores *is profitable;* this latter I do unhesitatingly recommend, either by the method recommended above, or by uncapping stores making them run, or in some way cause the bees to load their sacs. Many say it damages a colony to manipulate, but I must differ, and say that proper manipulation is a benefit, for the very reason that it loads the bees, and the activity adds heat, and so aids.

So the foundation of success in brood-rearing is, first, strong, healthy queens, and such are obtained by breeding from colonies that show vigor, and the queens produced under conditions of proper heat, and well-fed and nourished in their developing. After this, proper heat and an *active* hustling, working condition of the colony—not too much stores nor too little, but the bees must be handling supplies. This is practically all there is to do until the harvest season arrives.

If your location is one yielding nectar and pollen practically throughout the weeks preceding the harvest, and especialy the short period just immediately preceding when the colonies have become quite populous; and if the amount of nectar coming in is sufficient to cause the filling of brood-combs at the ends and along the top-bars, together with outside combs, a condition favoring swarming is likely to prevail. Just at this period it is heat—a hive full of bees and great activity causing uncomfortable heat—nurses well fed, and feeding brood and queen well, the combs having few empty cells; with these factors you have swarm conditions, and many will get ready for the act.

HOW TO RETARD SWARMING.

I have just spoken of the brood-combs getting just about full, so that the queen has limited laying room; and of the activity of the colony, and somewhat uncomfortable heat - conditions. Abundant ventilation given at this time will remove one disturbing factor, and will hold part of the colonies, but not all. Give a set of dry brood-combs underneath the old one, and in this one put a comb having a little brood in it—give this at or near the center. This is equivalent to ventilation, as it spreads the colony as two persons in a warm bed shifting to positions as far apart as possible, or taking separate beds in a hot night. It also gives both store and brood room, and will by all odds control in the great majority of cases. All this should be done *before* any queen-cells are started, yet, if cells are building, their removal with the changes indicated will, in most cases, relieve the bees of the swarming fever. But should the colony still show disposition to swarm, they should either be divided, by taking away some of the bees, or some of the brood, or both. The removed part may be taken clear away, and added to weak colonies, or made into new ones; or the queen may be put in that added chamber spoken of to go underneath with one comb of brood in it, and over this an excluder or a board with a hole in it, or a super between the two bodies; the idea is to make the brood-nest proper, which the queen now occupies, seem to be poor in both honey and brood, but *specially little brood.* If a board with a hole be used, the hole should be covered with excluding zinc. Also provide plenty of ventilation or shade so as not to "cook" the upper chamber in a hot sun. Remember, too, that drones may clog a small zinc; I recommend the use of regular wood-zinc slat honey-boards.

Keep these principles in mind and apply them, getting all the bees possible preceding the main harvest flow, and hold or keep these bees in some way as indicated herein, but get them if possible. And if you are so fortunate as to have conditions that will keep up the continued activity of the colony, and, above all, if you have them so that with the arrival of the main flow you have the brood-combs just about full of brood and honey, you should be happy indeed. I do not have such conditions, but if I did I should rear early queens, and make small nuclei, and certainly strive to have a large number of nucleus colonies that would have young queens laying by the time the harvest flow came. *Such nuclei are the foundation for next year's business.* Yes, by all means get these early nuclei, if your location and conditions will at all favor such work; and even go to extra trouble to produce conditions that will enable you to get them. The *why* for this, and their value, will appear later. Let me repeat and emphasize that early nuclei, when we can have good, well-reared queens—I say *well-reared*—not bred—will prove one of your very best assets.

Loveland, Colo.

Honey from European Foul-Broody Combs

BY D. J. WEST.

On page 133, Mr. J. L. Byer criticizes my article (page 47) on the use of formaldehyde on foul-broody combs, and thinks honey from such would be nasty.

When speaking of foul brood, I had reference to European foul brood, commonly known as "black brood." Honey from brood-combs where dead larvæ are dried to the cells is nasty, and I would not like even to taste of it. An apiarist who is so neglectful as to to allow brood-combs reeking with filthy diseased larvæ to remain in his apiary will not be very successful in treating European foul brood.

My object in the article was to show that formaldehyde has been used successfully on European foul-broody combs. I have cured quite badly diseased combs under the treatment, but it does not give very good results on combs badly affected. I use only badly diseased combs to experiment with.

We go through each colony of our apiaries nearly every 9 days in the working season, and keep good watch for black brood, etc. If a colony is found with one to 10 cells of black brood, it is marked, and if on the next examination they are more badly affected, some kind of treatment is given. Weak, diseased colonies are not allowed to exist, and no combs with rotten brood dried to the cells are used for extracting-combs.

The brood of some strong colonies will become diseased and go down very fast, while other colonies with diseased brood will clean all traces of it. Taking the queen away for about 15 days, and then giving a virgin queen, will often prove a success. This gives the bees a chance to clean the cells of the diseased brood, and good brood will be reared in the same cells by the young queen.

I have 2 combs that were badly diseased, which were placed in the brood-nest of a strong, clean colony 5 years ago, were cleaned up by the bees, and no trace of black brood has been seen in them since.

My claims are that when the combs are stacked as stated in my first article,

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the bees clean out the brood that does not hatch—unless the colony is not strong enough or the combs are too badly affected—and make them clean for honey. In badly diseased combs the bees usually cover some of the dead larvæ with honey. This makes the honey nasty if extracted.

After the season is over and the honey has been extracted, the combs are put back on the same colony where they were first stacked, and left for the bees of that colony to clean up all the drippings of honey that remain in the combs. We are very careful to let no honey drip from these combs where bees of other colonies can get it. The bees of our apiaries never have access to those combs as they come from the extractor, nor to honey that in any way is liable to carry disease.

I have yet to find a treatment that will always be successful. Formaldehyde treatment has been quite successful with us in saving combs, but we use other treatments more, as we run our bees for comb honey, and prefer comb foundation instead of combs for new swarms, as they work in boxes more readily when put on foundation, and there is less danger of disease.

We produce about one ton of extracted honey per year, of which about ¾ is taken from the unfinished sections and sold to our neighbors and private customers. We can not supply our home trade, and I don't think we have ever received a complaint about our honey.

Middleburg, N. Y.

Construction and Manipulation of Hives

BY DR. G. BOHRER.

I kept bees in Indiana from 1863 to 1873, and during that time I had bees in 13 different styles of hive, that I can still recall. Among them was the square hanging frame—the Langstroth frame in shape, but hung with the long diameter of the frame perpendicular instead of hanging with the long diameter transversely, as it does in the Langstroth hive-body. The standard Langstroth hive was also among my lot, and mostly what I depended upon. The Quinby, or Jumbo, frame I regarded as equal to the Langstroth in every respect, except that the frames were deeper, and I thought slightly more troublesome to handle, especially at that time. The custom of wiring frames had not then been introduced to bee-keepers, hence these larger combs were more liable to break in handling.

I also had a shallow hive consisting of a bottom-board and frames made of a top-bar and a bar at each end; and, if memory serves me correctly, the ends and top-bars were close-fitting. There was no bottom-bar. A slot was cut in the sides of the top-bar to let the bees pass up into the surplus-honey receptacles. The depth of this frame was 5 1-2 or 6 inches. There was a box that telescoped over the frames, and rested on the bottom-board, with a cleated cover. I left this colony on the summer stand to winter, and would have lost it had I not moved frames containing honey from the outsides of the hive up to the cluster, the bees having consumed about all the honey in the frames they occupied when severe cold weather came on, which being protracted, would not permit them either to shift quarters to full combs, nor to go after and carry honey to the cluster.

The above facts will point out to the beginner the danger attending the use of a shallow hive in outdoor wintering, especially in a country whether very much zero weather is common. In a warm climate a shallow hive may be trusted in outdoor wintering. But there is one other difficulty attending the use of a shallow hive which, to me, seems insurmountable, in case we place a due estimate upon time. I refer to the matter of handling frames in extracting honey. Each frame must be handled separately; and, as I have shallow supers or extracting frames, standard Langstroth, and Jumbo frames, I have by actual test learned that I can not by any means possibly rid 2 shallow frames of bees, uncap, and extract honey from them as quickly as I can take one standard Langstroth or Jumbo frame through the same process. And as the use of the extractor will become more common, and especially so since the National Pure Food Law has gone into effect, this difference in the time required in handling the different depths of frames should not—and it seems, when viewed from a logical standpoint, can not, with consistency—be overlooked and ignored. For people are rapidly learning that glucose dare not be combined with honey, and labeled and sold for pure honey, and that honey in the extracted form renders it the most wholesome as food. The fact is also gaining ground that extracted honey can be produced in larger quantities and cheaper than comb honey.

I am aware of the fact that it is claimed that bees frequently become frost-bound, and perish of starvation with plenty of honey in the hive. This is true in either a deep or shallow hive. But in outdoor wintering it will occur much oftener in a shallow hive than in a deep one, for the reason that there is less honey in shallow frames than in deep ones, so that as bees go into winter quarters, in the front and lower part of the hive, they will reach the back part of the hive in less time (of course, consuming the honey as they move back) than they will in a deep hive of the Langstroth or Jumbo pattern. I am not unmindful of the fact that an expert can winter bees in almost any shaped hive, but for the beginner to adopt a shallow hive of any name or form is a mistake.

I was in Mr. Langstroth's apiary in 1864 and saw a ring suspended between the top and bottom bars, about 3-4 of an inch in diameter, which was to enable the bees to pass from one part of the hive to another during cold weather. In Indiana I have bored a hole in one side of the hive and with a warm iron rod sharpened at the point, passed it through all the combs, being careful to perform the operation quite slowly, and turning the rod as I would an auger. Here in central Kansas I have a dry cellar, and put most of my bees away during the three winter months, and have never lost a colony. So I am not fully prepared to state in positive language how much merit to attach to the matter of having openings through the combs near the center as a means of enabling the bees to reach their stores during zero weather. But I am of the opinion that while it may, and no doubt does, afford a source of relief to an extent, it is not a positive guarantee of safety, and nothing short of a frost-proof depository is. And in the light of my present amount of experience and observation I can not say any more in favor of any other form of hive than the Jumbo and Langstroth.

I see that the sectional or transversely divisible hive is held in high esteem by J. E. Hand, of Ohio, and J. E. Chambers, of Texas. These gentlemen say in Gleanings that with this hive, enlarging or contracting the brood-nest, supplying the bees with honey, and finding queens and queen-cells, are much more expeditious than with the deeper frame, or Langstroth and Jumbo hives. Now, while a section of this hive containing honey or brood can be placed over another section requiring food or reinforcement, I am at a loss to know how these gentlemen manage to find a queen, or learn beyond doubt the presence or absence of queen-cells without ocular inspection of every part of every comb, whether deep or shallow; and how they can make an ocular inspection without handling each frame separately. All persons at all familiar with the habits of a queen know that, as a rule, to secrete and absent herself from view is one of her strongest instincts, and that one of the sections, being only from 5 to 6 inches deep, affords ample opportunity to carry out her inclination to absent herself from view, does not admit of a doubt. Hence there is a mistake about this part of their argument. I do not desire to place a wrong construction upon their language, and if I misinterpreted their teaching, I will gladly stand corrected.

But, again, such a hive I see by prices quoted costs more than either the Langstroth, the Quinby, or Jumbo hives. And while I shall not at once condemn this hive, being in favor of investigation and experiments carefully conducted, I will say that I was personally acquainted with Mr. Langstroth (the greatest inventor of them all), and also with Mr. Quinby, that staunch old veteran bee-keeper. I learned from them in personal conversation their reasons for constructing the brood-chamber of their hives as we see them. The difference between them is but little, while the success of all who have adopted them in the largest apiaries in the United States, and elsewhere among the nations of the earth, can not be called second to any. But instead, very many who began bee-keeping with both deeper and shallower hives than either of these old, reliable stand-bys, have endorsed their use and adopted either the Quinby or the Langstroth hive. In fact, all the 13 or more different hives that I have tested were claimed by

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their inventors to be superior to the Quinby and Langstroth patterns, but simply ran against a Gibraltar without having made any impression except to shrink the contents of the parties' purses who invested in these so-called improvements.

The greatest harm that has ever come to the Langstroth and Quinby hives has come through cutting good lumber into worthless fragments, and tacking them together as a part of a Langstroth or Quinby hive. The same is also true of hives frequently made of store-boxes and not put together in a workmanlike manner.

But one feature more about the sectional hive, which strikes me as a matter of doubtful propriety, is the top-bar of a frame in an under section, and the bottom-bar of the frame of an upper section, with the open space between them. All added together amount to nearly one bee-space between the combs of the upper and lower sections. That the queen will not ascend to the upper section as long as she can find space below to lay eggs is a fact. And when she does finally go above in search of laying room, she will be very slow in returning to the section below. The truth about the matter is that a queen when left to be guided by her natural instincts prefers laying-space more than 5 or 6 inches deep, as is so often observed when she has long, deep combs at her disposal. In such cases she will invariably lay eggs in a circle, and go from one comb to another on either side from the comb in which she began laying; thus placing the developing brood in globe form, which is the best possible shape for a colony of bees to place themselves in, to economize the warmth they generate. This in a shallow sectional hive they can not do unless the bee-keeper is ever on the alert to supply an upper section, which the bees and queen will, through force of circumstances, enter. But on account of a bar below and one above, with a 5-16 space between, they will do so as a last resort, and do so reluctantly.

Lyons, Kans.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 285)

NEW BLOOD OR NEW STRAIN.

"I hear our queen-breeders talk about new blood in bees. Do they mean new strains?"

Pres. Dadant—I think that can be answered by yes.

NEW BLOOD ANNUALLY.

"Is it necessary to introduce new blood annually?"

Mr. Hatch—I would like to speak a little on that point; it seems to me the honey-bee should be just as capable of improvement as any other stock, but as I know invariably we cannot always control them like other stock, so it takes a long time. Now in the matter of gentleness, I have handled them some, and I have proven that entirely to my own satisfaction, and I don't believe that anyone can contradict it, that too close breeding would give bad results, and I believe the same thing would hold in bees; and I believe, as I said, these things may be done on account of the bees mating in the air, not under the bee-keepers' control. I don't know whether I ought to say that it takes a good while to improve them, but I will say that I have better bees than I had several years ago.

Mr. Hilton—Now, is it necessary to introduce at all? But I believe I get the best results by introducing a new strain annually. The gentleman last upon the floor has made the matter very plain, that it is best not to keep bees to close breeding. Then, if it be true, is it absolutely necessary that we introduce new strains annually?

Mr. Anderson—I am here for what information I can glean. I think this is a matter of importance, and I am not satisfied. Now, the question arises, if you have a strain of good bees, is it necessary to introduce new blood to that strain of bees? Now, there is the point I would like information on; I would like to hear from queen-breeders. Some say if you have got one stock of good bees, keep it pure, neither breed nor introduce another blood. Is it best to keep the strain of blood as you have it, if it is good, or is it better to cross it?

Mr. Victor—I think it necessary to introduce new blood in an apiary annually; it is necessary in a wild state. Bees in their wild state seldom swarm. I say that it is necessary to introduce new blood, even if it is from the same stock.

Mr. Chambers—According to my experience it is necessary to introduce new blood. You will always increase vitality by doing so.

E. J. Atchley—These questions come up at all our bee-meetings, and I think they should be argued very carefully as they come up. I think much depends upon whether it is necessary. If we are producing honey alone, and not breeding queens, I would introduce new blood only when I find my bees getting down. In some apiaries it is necessary to introduce new blood every year, and in others it is not necessary; it is owing to the locality; it is owing to the kind of honey that is produced, whether extracted, or comb honey, and different things that come up in different apiaries; but it is quite necessary for any bee-keeper who is expecting to make a living to look to his queens and bees. When they begin to go down it is time to introduce a good strain of blood, but as long as they are up to the standard it is not necessary.

J. Q. Smith—Mr. President, the gentleman that has just spoken has voiced my sentiments. I don't think it is necessary to introduce new blood every year, you might do worse; but if you find that your queens have been superseded with inferior queens, then introduce new blood.

Dr. Bohrer—The introduction of new blood is that at some time or place degeneration will begin. Now, the question is, when does it begin? I believe that it begins first; that is, in breeding and requeening. I would suggest that good strains of bees be produced from good breeders, and by this means you will have good queens all the time. I sometimes get queens from Texas and other places, but keep them coming in from different directions. I have some queens that I want to get rid of, and I don't want the queen that stands a chance of producing a bad strain of bees.

Mr. Parsons—Those men who have just spoken have given me some idea as to the introduction of these queens, but I think that the person, who asked this question, asked it in the interest of the honey-producer, not from a honey standpoint. If your bees are not doing as well as you want them to; if they don't gather the honey that you think they ought to gather; if they are not as gentle; then I would say that it would be well to introduce new blood, but be sure that it is better than the one you have. It is a very easy matter to get something that is not so good as the ordinary; it will not do to depend upon getting a queen from an experienced and honest queen-breeder and breed from her and requeen your apiary. He may do all he can, but he has not had the time to test that queen to see if she is a good all-around queen; she may look all right, but she may be lacking in that point; so be sure that the queen you get is better than that which you have, else you may make your bees inferior.

Mr. Bergstrom—I think the question has been misunderstood. The question was this, Is it necessary to introduce new blood annually—*every year?* I don't think that there is anything exceeds the importance of introducing new blood occasionally, or only when it is needed.

On motion, the meeting adjourned to meet at 9 o'clock the next morning.

SECOND DAY—FIRST SESSION.

The Meeting was called to order at 9:30 a. m. Nov. 9, 1906, by Pres. C. P. Dadant.

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Mr. Hilton—I move that the chair be authorized to appoint Committees.

Mr. Hatch—I second the motion.

The motion was unanimously carried, and a recess was given after which the following Committees were appointed:

ON EXHIBITS.

Louis H. Scholl, New Braunfels, Texas.
D. H. Coggshall, West Groton, N. Y.
A. G. Anderson, Ferron, Utah.

ON RESOLUTIONS.

R. A. Holekamp, St. Louis, Mo.
J. A. Stone, Springfield, Ill.
C. C. Parsons, Bluff Springs, Fla.

ON AMENDMENTS.

J. Q. Smith, Lincoln, Ill.
W. O. Victor, Hondo, Texas.
W. H. Putnam, River Falls, Wis.

ON QUESTION BOX.

C. A. Hatch, Richland Center, Wis.
Geo. E. Hilton, Fremont, Mich.
Fred W. Muth, Cincinnati, Ohio.

Pres. Dadant—The next subject was a paper by Mr. Townsend, of Michigan, on "The Production of Extracted Honey," and the Secretary being sick has upset the disposition of papers; and as the paper may be in the mail this morning, we will therefore take up the question-box at once, unless someone has something else to propose.

CLARIFYING BEESWAX.

"How can beeswax be clarified?"

Dr. Bohrer—In order to determine what is used to get the wax clear, the best method of refining wax that I know of is that one used in the United States Depository. Go to your druggist and look up the refinement of beeswax; it is given in detail; the directions are there. I used to do it but I will not undertake to give it today.

Mr. Rouse—I think the easiest way to solve this question is for every bee-keeper to use a solar wax-extractor, and put the wax up in the best possible shape for the market.

Dr. Bohrer—Will it make it white?

Mr. Rouse—Yes, sir.

Mr. Kimmey—I simply wish to inquire the manner in which Mr. Rouse uses his extractor. I purchased one, but it does not work satisfactorily.

Mr. Rouse—Well, I cannot say that I have had a great deal of experience with it, but what experience I have had I will give. It is built on the Doolittle plan. I use it with a double glass as a reflector to put combs on, and I believe that the double glass over the top will produce more heat from the sun, and I have no trouble to get it hot enough, and I am sure it will make it hot enough; so you had better handle it with tongs, and it will make the wax white. When it is first rendered out it is a little yellow, but put it in the sun and it will soon be white.

Mr. Kimmey—This is what I have been trying to get at. I find after the wax is put in the extractor it does not melt; new combs are all right. At the bottom I find a lot of black specks and sediment. I want to find out if anyone had the experience of rendering it and getting it into a clarified or refined state—whether you can do it with the solar wax-extractor. I find more or less impurities at the bottom. I have been obliged to cut the bottom off of the cake. I am not giving information, I am asking for information. I would like to have the experience of others.

Mr. Parsons—I wish to give my experience. After the wax has been rendered and run through the extractor once, then fill the pan about half full of water, put the wax back into the extractor, run it through again, and you will not be troubled with that sediment in the bottom.

Mr. Hatch—What kind of an extractor were you speaking of?

Mr. Parsons—A solar extractor. There are a great many extractors. I get hold of a good deal of wax that has been almost spoiled in the rendering, and I find that I can get more of the impurities out by putting it in a large body of water and bringing it to the boiling point, and let it cool as slowly as possible.

Mr. Kimmey—Do you soak it?

Mr. Parsons—No, sir, by boiling it in the clear water, then take it out and boil it the second time in clear water; but I find that it is necessary in the use of the solar extractor to use some water in the pan.

Mr. Hatch—I would like to say a word on this. The first speaker suggested that boiling it in water would help to remove the impurities from the wax; but this will not do up in Wisconsin, at all; there was certain material that would run through the wax. My experience has been, the sooner the wax is taken off the fire after it is melted, the better. I never found any impurities I could not remove by the solar wax-extractor. One-fourth of an inch of water in the pan is sufficient, and I clean out the comb, but leave a little of that there; it will sift out a lot of dust and finer particles. This is a great help, and I say I have seen no wax but what the solar extractor would purify.

Mr. Stone—I have found that the best thing I can do is to place the wax in a deep vessel, and keep it hot as long as I can, or let it cool slowly, and more impurities will come out than in any other way; and the deeper the vessel the more dirt will settle to the bottom, and the more the wax is cleaned.

Mr. Coggshall—As I understand it now, the bee-keepers in our part of the country use oil of vitriol, of a certain per cent, but I don't know what per cent they use; that cleans the wax when it is heated up.

Pres. Dadant—I enter a protest against the use of oil of vitriol. It will not take out the impurities.

Dr. Bohrer—I wish to join the President in advising against the use of sulphuric acids or oil of vitriol, for the reason that it will burn the comb out and take the substance out of it to such an extent that the bees will not work upon it.

Mr. Coggshall—I have had no experience with it, but I understand they use it in small quantities.

Mr. Parsons—Let us hear from the President on this subject.

Pres. Dadant—I only wish to say a few words. I think the great point is the use of plenty of water. One of the gentlemen made the remark that his wax was spoiled by the water. He used hard water; take hard water in an iron kettle and your wax will be black. Use cistern water, and you will have much better results. Don't over-boil wax, let it cool slowly, and in that way you get good beeswax, and by having plenty of water the sediments will go to the bottom; but don't try the plan stated, of using oil of vitriol.

Mr. Bergstrom—I would like to ask a question in regard to melting the beeswax. Have you had any experience with the new extractor, and have you used it?

Pres. Dadant—No, I wish to say that in regard to the wax extractor, the one that I thought gave the best results was the one exhibited by Mr. Hershiser, of New York; but the German wax-press sold by the manufacturers is very good. Have your beeswax very hot, and press slowly; leave it on the fire, and keep pressing. I believe Mr. Hershiser's machine, if manufactured, would be very satisfactory.

Mr. Ripps—I had experience with the wax while using rainwater, and used apple vinegar instead of sulphuric acids. I used that, and it does pretty well.

Mr. Rouse—Is there enough in it, in clarifying the wax, to pay all bee-keepers to do that? The manufacturer of the comb foundation will always have it nice and clear, and I believe he can do it cheap enough; and in the remarks I made awh'le ago I mentioned it in that direction, so I believe the solar wax-extractor will clean the wax out enough. That is what I had reference to. I don't believe it will pay individuals to go to so much trouble to get a purifier.

Mr. Johnson—I am one that is not entirely interested in bee-culture, in making money, but I have had some experience these 40 years, and I have found, in regard to the solar extractor—I use my cappings. I take the comb and boil it, and run it through some old gunny-sacks; then I have another vessel full of hot water, say a 6-gallon can, and put the wax into this, and I find when it is cool that I have nice, yellow wax. It gives satisfaction to those that I have sold it to.

BEST SMOKER-FUEL.

"What is the best material for smoke to subdue bees?"

G. H. Adkins—I find that the best material for the smoker is the stems from a cigar factory.

Dr. Bohrer—The kind of bees has something to do with the case. With the Cyprians I would suggest sulphur in a mild form.

Mr. Werner—I use dry elm wood, hickory wood, or willow.

Mr. Parsons—I use titi, and find that very good.

Mr. Victor—In regard to the smoker-fuel I use, the most convenient thing is something that is always handy, that is, chips from the woodpile, and the Corneil smoker is what I prefer. With

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a few dry shavings, an old gunny-sack, and chips from the woodpile, it is good. It does not matter what kind of wood you use, but chips are as good as I have ever used.

Mr. Stone—I would like to ask Dr. Bohrer, as he suggested sulphur, if he would put it in his smoker. I want to say that some parties were repairing a church in our neighborhood; they found a swarm of bees in the roof, and they came to me to borrow my smoker to smoke the bees out. When they returned the smoker I could smell sulphur, and it did not last 3 months until it was worthless, and I could not use it; it was covered with little holes.

E. J. Atchley—The best material I use is dry moss, which is always at hand; it is in great abundance around our apiaries, and I have found it to work all right.

Pres. Dadant—You will have to ship it to us, because we don't have it up North.

Mr. Holekamp—It would not be necessary to ship moss from Texas. Old rags are plentiful, and the leaves in the fall are as good as moss; they are everywhere, and you don't have to go South for them.

Mr. Hilton—The smoker-fuel depends usually upon the locality. In some localities I can secure one thing, and in another I cannot secure it. In Michigan the best thing I find is rotten elm, that we find in the inner part of the elm tree, and I cut it up into chunks about 4 inches long, and then put in something that the bees don't object to, and that will not injure them in any way. Some of these things that have been talked about would be very objectionable, and I would have something to say to that, as well as the bees.

W. H. Laws—I wish to enter a protest against cigar-smoke; those that live with it under their noses think it is a good thing. I think what we need is something to frighten the bees—something that is not offensive, and will not anger them. We should give them a little that will not frighten but subdue them; that is all right; but this obnoxious smoke is injurious.

Mr. Jouno—I gather rotten wood, post-oak, live-oak, hickory; then I hammer this up and put into the smoker. I find this is a good smoke. I have tried tobacco and I find it does not do at all. I find that you will have to have something pleasant for the bees and pleasant to the breeder. I have tried chips and corn-cobs. As to sulphur, just give them a good charge of sulphur. I don't know about it rotting out the smoker, but it would certainly ruin the bees.

Mr. Hyde—I don't believe our bee-keepers know what is best. These Northern bee-keepers don't know anything about mesquite; they have none, but the best thing in the world to subdue bees is the smoke from rotten mesquite. We can pick it up anywhere; and you can break it up with the hands. Let it be rotten enough to break with the hands, and I think it is the best fuel. I have heard sawdust recommended; we don't have much of that down here. As one gentleman said, different localities have something to do with what we use, but here in our country we don't find anything equal to rotten mesquite.

D. C. Milam—I have heard it said that the thing that is most convenient is the thing to use. I find the best smoker-fuel is cedar-bark; it is handy, and you carry it around with you; it makes a mild smoke; but there is one objection, it creates considerable creosote; but cedar bark is best I think.

FREIGHT-RATES ON HONEY.

"Freight rates on comb-honey are too high. Is there any help from the National Bee-Keepers' Association?"

Pres. Dadant—We ought to hear first from the one who put the question. Let us hear from him.

Mr. Muth—I put that question. The classification of comb honey is not even considered by the freight officials on the railroads north of the Ohio River, which could be easily remedied if it would be taken up by the National Bee-Keepers' Association with the proper officials. For instance, the Western classification of freight on comb honey, (this applies west of the Mississippi River), reports a 1½ rate. West of the Mississippi Valley it is a 1½ rate. A 1½ rate means 90 cents or $1.00 through Wisconsin down to Central Indiana, where it ought to be about fourth-class rate. It is classified 1½, first-class, 1½ rate. We don't take care of the honey in shipping it; you can see it coming in boxes. The railroads don't even know what it is. Mr. France ought to be the man to answer this question better than I.

Mr. Holekamp—Would not the classification on extracted honey be fourth-class, when we get honey from East of the Mississippi River? North of that country is not in the Western classification, but the classification there is second-class. Now, I would think that it is worth while for this Association to take this up and have it uniform. While I can ship extracted honey from parts west of the Mississippi River at 26 cents, the same distance east of the Mississippi costs 56 cents. I have been taking this up with the freight agents at St. Louis, but they tell me this is to be taken up with the others.

Mr. Bacon—The railroads of the United States are divided into three classifications. West of the Mississippi River it is the Western Classification; east and north of the Ohio it is the Eastern Classification; and south and east it is the Southern Classification. Now, we are getting a cheap rate west of the Mississippi River; we are getting a cheap rate from the East, but we found that it cost over $1.00 to ship into Alabama and Mississippi, where the rate to Havana, Cuba, was 59 cents from Watertown, Wis. It does no good to write letters to the railroad officials; we should send a representative to the different railroads which compose these Classification Committees; it is easy to turn a man down who writes letters, but it is harder to turn a man down who walks into your office in person. If you will send your representative to St. Louis, when the Southern Classification Committee meets, and also advise them in advance, they will hear you. Railroad men know very little about honey, and I believe if the matter can be properly placed before the Classification Committees, a remedy will be granted.

Pres. Dadant—Can any of you suggest some other plan?

Mr. Boyden—I would not be able to tell you a better plan. I think the plan of Mr. Bacon is the only plan to go by. I know it does not do much good to write letters.

Pres. Dadant—Mr. Putnam is a great shipper, let us hear from him?

Mr. Putnam—I have had experience with railroads on getting rates for supplies. I had our samples of goods at St. Louis, and I set the case before the Western Classification Committee in Chicago; and I accomplished some good at that time, but I have noticed that there are other parts in the United States that are not heard by the Committee, and the rates are very much out of proportion. I think it would be well for the National to take this matter in hand.

Mr. France—If I remember rightly this Association passed resolutions to appoint a committee to go before the Classification Committee and lay this matter before them; but they only partially accomplished what they sought for. The freight-rate on extracted honey at that time had very little distinction as to the package, making the rate very high, no matter what the package was. We secured a rate which would include 65 cents, but on comb honey there had been so many damage claims put in against the railroads for breakage that they would not listen to a change. I do hope that some steps will be taken to take this matter up with the different companies of the Freight Classification. I went to Chicago and asked them to change the rate from 2d to 4th class. They seemed to hesitate, but when I presented the can, "Why, sure thing," they said; "that is entirely in wood." I did not want to change it, because the old square-top left it open so anyone could take out the honey, and then a claim was put in against us for the loss of honey. They gave me a copy of what would be instructions to the agents of the Western Classification Committee, so that honey was changed to 4th-class entirely encased in wood. I was afterwards informed that there have been many damage claims where honey was shipped in cases of two 5-gallon cans, and they changed the freight classification in Kentucky and Tennessee, and I was told also in Texas; that the boxes must be metal-bound, to keep the wood from pulling off.

Mr. Laws—This information came to us, and the cases are metal-bound.

J. F. Teel—We get the metal-bound, but they are not all metal-bound.

Mr. France—But I believe at present the freight is higher on comb honey than it ought to be. I think it would be well that this matter be in the form of a committee, and if that committee will go to work, and accomplish something, and let me know, as soon as any change is made, you will know it.

Mr. Rouse—I would like to know if there is any difference in classifying extracted honey, or should it be called

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"strained" honey? I have the idea that being called "extracted honey" makes it higher.

Mr. France—It does not. Some years ago I shipped a case to New York City, and in order to secure a 4th-class rate I had to bill it "syrup."

Dr. Bohrer—Are you not of the opinion that there is a body, if you make an appeal to, they will assist you?

Mr. France—Yes, sir; it would have been done long before now if some other little questions had not come up.

Mr. Kimmey—It seems to me that this is a matter which is not right; it is a wrong we have suffered because it has not been attended to. It seems to me that the General Manager is the man that ought to do it. A committee ought to be appointed to assist him, but we should furnish the General Manager with all the information we can give him. We ought to pass a resolution to act, and then we ought to make a resolution in some way to empower the General Manager. I move that this matter be referred to the Committee on Resolutions for action.

The motion was duly seconded and carried.

Dr. Bohrer—This same object I presented to the Convention in St. Louis, and it was adopted, and the aim of this resolution was the object of what we are taking a vote on now. It provided for a Legislative Committee to be appointed from each of the States, and they in turn to act through the Manager of this body, and ask for a change that might be necessary as to the transportation companies. It is said now, and it is a fact, I have no doubt of it at all, and we, as an organization, ought to look out for the matter at least, and in time. If we apply through the proper officials I believe we could get it. It is an easy thing to appoint a committee, but it is quite a different thing to get them to act.

Pres. Dadant—I believe the greatest trouble is, too many people are appointed on committees. If you have one man from each State you will probably hear from three or four states, and then the matter will drop. Get two or three men together and there will be more action. Now I want to hear other remarks.

Mr. Victor—It may not be in order, but I think there are other questions in regard to transportation that ought to come up before we settle this. For instance, I understand there is a question in regard to rates on bees, and on comb and extracted honey, and the rate on bees ought to be considered generally.

Pres. Dadant—This is a matter of importance. The Secretary will read another question on the matter of rates on bees, and we can include this before we dismiss the matter.

FREIGHT RATES ON BEES.

"Freight rates on bees from Texas and other states are so very high. Is there any help from the National Bee-Keepers' Association?"

Mr. Bacon—The existing high freight-rates are due to the negligence of the majority of the honey-producers. These railroad men are not familiar with the production of honey. The best thing is to get your statistics together and show them; get some samples of the shipments of honey from your different apiaries in Texas, and show them where it will be to their business interest to make the rates lower, so they will figure on this, and, consequently, the shipments will be larger, and this will put some more money into their pockets. These railroads are, as I said, divided into three classifications. First, I would suggest, take the Classification Committee that would cover the greatest movement of honey. First, I would say the Western Classification; and if you succeed, then go to the Southern and Eastern Classification, and state that you have got this from the Western; that will be very influential. If you will go before them in a business-like way, and put the matter before them, they will give you just as cheap rates as they can. I went down to St. Louis last year and got them to reduce the rates to the 6th, which got our rate down one-third, so that we can ship to-day into these Southern States for two-thirds of what we used to. I went down there with my boxes and samples, and I told them the amount of honey that had been shipped out of a certain place in Texas, and these men opened their eyes; and I told them what the honey industry was in the South, and they responded.

Mr. Stone—I believe in all of this discussion, that any committee that we will appoint along this line will do us no good until we begin at the other end, and we learn from our General Manager that the trouble was soon gotten over when they got to the 5-gallon cans in a case together, and then it had to be iron-bound, and they got their rates. Now, we will never get rates on comb honey until the bee-keepers begin to do their part. I know men shipping comb honey to customers 200 or 300 miles, and they just ship it in 12 or 24-pound cases with the glass exposed, and not put together; but you pack your cases in a good box, about as heavy as two men want to handle them, then lay handles clear across the sides; and if the bee-keepers will do this they will have no trouble in getting these rates; we will get them for the asking. This is my experience. I have heard railroad men say that men will break the glass and eat the honey, and we will have to pay for it. I believe the trouble all lies with the bee-keeper in the manner he ships his honey.

Mr. Anderson—You are getting pretty close to me now. Why are we members of the National Bee-Keepers' Association? We figure it like this: Because in unity we think there is strength. We think through the united efforts of the bee-keepers of the United States results can be accomplished for the good of the honey-producers of the United States. Now, for instance, Mr. Muth, I understand, says that the Lord gives help to those who help themselves. The good efforts of Mr. Toepperwein did not reach us all; we did not think that we would have to pay full fare to get down here, and when I asked for rates they said, "We have heard nothing from the National Bee-Keepers' Association." Now, then, we have a good country in the North for producing honey, and there are good localities in the South for the bees, but when we have to pay $450 to transport a car of bees there, we cannot afford to buy or sell them, when you can obtain a car to transport horses and other live stock for $150. I know that through the united efforts of the Association, through the Manager, we can obtain better results. Now, I don't want to encourage all the bee-keepers in the South to ship their bees up North when there is a honey flow on, but we expect to buy from them. Now these rates can be obtained if some one—the leading officers of this Association—are empowered, and will go at it with energy. I think we should not rest until we get it.

Mr. Holekamp—The work which Mr. France did before the Western Classification Committee was satisfactory as far as extracted honey goes; but there are these different committees, because extracted honey bears the same identification all over the country, while the Western Classification is 4th and 2nd class; therefore it seems necessary that these different Classification Committees ought to be interviewed wherever their headquarters are, and it ought to be handled through their headquarters.

Mr. Victor—I had a little experience in shipping bees to Colorado. They charged me $200 per car from Wharton, Tex., to Colorado; the distance we can travel in 36 hours on a passenger train. While we are paying two or three times as much as cattle, the cattle have more attention than the bees, unless we instruct that they be treated right. We only get one transportation while with cattle we get two. I wanted to experiment along the line and take care of some honey in the summer and ship them back in the winter and increase them, but the rates were so high I could not think of it at all. We Texas bee-keepers sometimes have a good many bees to spare; we can look ahead and see if our seasons are not going to be very good, and if the rates were not so high I think we could ship bees from Texas to other points to quite an advantage, and I believe if the railroad companies would take this matter under consideration it would be easy for them to see that by giving us a lower rate on bees, they would have more to handle, which would more than over-pay the difference on the present rate.

Pres. Dadant—We should go, ahead and try to get a better rate, as this matter is of great importance to us. We ought to have a committee all the time interviewing those Classification Committees, so as to get matters reduced; and I believe we ought to require this Association to name the men who are to serve on this Committee. I believe also that the Board of Directors will willingly grant the sufficient amount to pay for the expenses of the men who will interview those Associations. This matter is of importance to the bee-keepers.

J. Q. Smith—I think that that Committee ought to find out from the railroads what sized package would be acceptable to them, and have a satisfactory box, certain weight, and enclosed

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in a certain way, that would be acceptable to the railroad companies to handle. Now, in car-lots there is not so much danger, but in small packages is where the trouble comes in.

Mr. Kimmey—I wish to re-state that my motion was that this matter be referred to the Committee on Resolutions. This slip was handed to me; it reads, "Ship your honey in proper packages," and the man who handed it to me said, "I have handled it in small packages, and I have carried the package in my arms on account of the small packages getting broken." It is the duty of this committee to advise us what kind of package to use.

Pres. Dadant—It will save time to refer to the Committee on Resolutions, because they can discuss it and present it to us later.

The resolution was adopted.

ADVERTISING TO SELL OR TO BUY HONEY.

"Which would be the better way to advertise honey, in a bee-paper that bee-keepers read, or in a public newspaper that thousands of people read?"

Mr. Werner—I asked that question. I have advertised honey for sale, in bee-papers, and not gotten as much as a postal card; and then I have advertised in the St. Louis Post-Despatch and sold as much as 3,000 pounds of honey.

J. F. Teel—If I were going to try to buy a whole crop I might advertise in a bee-paper; but if I want to sell it out in local lots I prefer the newspaper. I have found the Dallas News to be the best medium to sell through, and I have sold something like 3,000 pounds from one advertisement.

Mr. York—I think it depends a great deal upon the class of people. If you want to sell to consumers, advertise in the newspapers; if to the dealers, advertise in the bee-papers.

ANY PROGRESS IN NON-SWARMING BEES?

"Has there been any progress made in the past ten years towards securing a non-swarming strain of bees?"

Mr. Chambers—I believe from my experience that there has not been any success. For 4 years I have had no swarming in my apiaries. I have had no success as far as I know, and I don't believe that there has been a practical advance in that line.

O. P. Hyde—I don't think the nature of bees today is the same as it was a few years ago. I think the nature of swarming is just the same, and they are swarming just as they used to swarm, because of instinct; and, so far as any progress being made in the bee within the last ten years, none has been made. You will see this in advertising, "A non-swarming bee;" but I think the non-swarming bees and the breeding of the long-tongue bees—there is nothing in them; I think it is only a catch to make a profit and sell bees. I think the bee's tongue is as long as it was a thousand years ago, and they swarm under the same surroundings. Now, I don't know if I have had two swarms this year. It is the nature of bees to swarm; give them plenty of room. If you want your bees to swarm, put on a box of sections and have nothing above and no foundation in the section, and your bees will swarm right away. Put on new supers, give them plenty of room, and see that they are off the ground.

Dr. Bohrer—Are there not some races of bees more inclined to swarm than others?

Mr. Hyde—Yes, sir; the Holyland bees are the hardest to control. I am glad you mentioned this. Another thing is to go through the hives and clip the queen-cells. I go through my hives once a week—just as soon as I think they are fixing to swarm; and then I go there and clip those cells; but the Holyland bee is the most prolific bee that we have in the South, and it is a bee that will breed up and make a strong colony quicker than any other race.

Mr. Victor—I cannot see why we cannot make selections in regard to the honey-gathering, color, or anything else. As for my part, with the same management I had a few years ago, I would not have over a fifth what I had when I commenced. I think the disposition of the bee can be selected in regard to swarming, and as to stinging; and I think the conditions under which we rear our queens have a good deal to do with the disposition of the queens. If we rear our queens under the swarming impulse, those queens will naturally want to swarm more than those that were not around the swarming bees; and I am satisfied, so far as I am individually concerned, that my bees will swarm fully 50 per cent less than they would six, eight and ten years ago.

NON-SWARMING AND COMB-HONEY CONDITIONS.

"What is the best plan to keep bees in out-yards from swarming, when running for comb honey?"

Sec. York—Mr. Louis Scholl is asked to answer this question.

Mr. Scholl—I don't know whether I can answer that question, because I do not produce section honey as they do up North, and I always produce comb honey in connection with extracted honey.

E. J. Atchley—I have some experience along that line, producing comb honey in out-yards, and I have failed to prevent swarming, as a rule; but on general principles, the best plan under all circumstances is to try to have a virgin queen in each colony in the out-yard at the beginning of the honey-flow. In other words, I suppose that should mean apiaries where some one should be there daily, and our queen-breeders can nearly always have young queens maturing or hatching at any season of the year. I know but few instances where I had swarms in other sections on black comb where I had a virgin queen in that colony at the beginning of the honey-flow, and this is a pretty easy matter. Every man should study his honey-flow, and know just when it comes, and at the proper time arrange to have the queen in each colony.

Mr. Kimmey—Is the result accomplished by reason of the absence of the laying queen rather than the queen being a virgin?

Mr. Atchley—I like to have colonies that are queenless during a honey-flow. When we have a virgin queen in that colony it is supposed to be a colony that is well organized, and more bees can be supported from the brood, simply because there is less brood to care for and less pollen, and, consequently, the bees in the supers store more honey because they are in shape to do so.

Dr. Bohrer—My own personal experience is that during the swarming and honey-flow seasons, to give them plenty of room has something to do with it. I almost entirely use a two-story hive, and by extracting some of the honey above and using the queen-excluder; and if the queen is confined below, it seems to subdue the inclination to swarm.

Mr. Anderson—There is a matter in my mind that is very important, and now we are in the middle of our convention. It is going to trend towards decline from now on; members are going away because their tickets are exhausted, and they are needed at home, and we all have faith in the good judgment of our President in the appointment of committees. The question of freight-rates ought to come before the body from the Resolutions Committee this afternoon. Could the Committee prepare it this afternoon or this evening? We desire that no one leave until this is settled. Now, then, we produce bees and honey to sell, but the freight-rates are so high we cannot sell them. In the North there are as good members as there are here; they are not here because the tarriff is too high. If they were here they would voice their sentiments as affecting the tariff. Now, then, we know that with this matter being put in the proper hands it is going to result in good.

Pres. Dadant—The Committee will make a report this afternoon in regard to the transportation question. Now, Mr. Adkins started to make a statement in regard to a personal matter, let us hear from him.

Mr. Adkins—I ask that we adjourn till 2 o'clock this afternoon.

The motion was seconded and carried.

SECOND DAY—AFTERNOON SESSION.

The members were called to order by President Dadant, who said, "We are yet without the papers that were to be read, but some one has gone to the postoffice for them, so we will proceed with the questions until the papers come. The Secretary will read the next question.

YOUNG QUEENS TO PREVENT SWARMING.

"Can I prevent swarming by the introduction of young queens?"

Dr. Bohrer—As no one seems to want to take the matter up, I will give my own observations. I have given a queenless colony a queen just before she was hatched, and was almost white, and sometimes they are well received, and I have never known them to swarm again. I don't know whether there would have been any difference if I had introduced a fertile queen. When I was a queen-breeder, the queens were almost white when they were first

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hatched out. Walking about among the bees in Kansas, I think year before last, I tried that sometimes and the bees would not take to the queens instantly, and would not accept them, but I did not try this year, and do not know how they would have received them; if it had been a fertile queen I don't know what the result would have been. I might say that the first time I ever saw this done was in the apiary of Mr. Langstroth, in Ohio, and when she came out she was not yet colored, and in a half or three-quarters of an hour she had begun to turn and seemed to be paying no attention. Mr. Langstroth said, as a rule, they were acepted when they first emerged. But as to a means of preventing swarming, I don't know.

Mr. France—That varies according to the latitude and condition of the season. If a honey-flow is coming in rapidly, and the swarming fever has already advanced, it is pretty hard to stop it. The time to check the swarming fever is before it has fully developend. I think a change would check it.

Mr. Hatch—I have tried almost every kind of method that has been suggested, and all the methods I could think of, and have always found fault with every one of them. One plan would weaken the colony so as to cut off the honey-flow, and another plan would weaken me so I was not fit to get the honey, and so I let the bees swarm. One plan is to put a queen-excluder above the colony, and put a hive on the lower box.

PREVENTING HONEY-GRANULATION IN GLASS JARS.

"How can extracted honey be prevented from granulating after being put in air-tight glass jars?"

Mr. Holekamp—There is being put on the market honey from California that is claimed doesn't granulate. Now, our honey granulates, but there is a way of preventing this granulation, because this California honey doesn't granulate. I would like to know if there is any way of preventing granulation without adulterating honey, without changing the character of the honey?

J. F. Teel—I was brought up in Alabama, and in that country there is a grade of honey that never granulates. It is also true in Mississippi. While it is not a real, first-class grade of honey, it is fairly good, and people prefer it, who are accustomed to it, and prefer it to real white honey; but there is a honey that is pure that doesn't granulate.

Mr. France—I will say that of some 60 kinds of honey over the States I have been learning something. I find that the honey from the North has a tendency to granulate much earlier than that in the Southern States, as a general rule, so I believe there is something in the latitude. The flowers and the locality have something to do with the granulation.

Mr. Rouse—My experience is that extracted honey, well ripened, will not granulate. I have had it in an open room, that is, the shop or factory where I work, and I have kept it there all winter and it has never granulated at all. It was well ripened when it was extracted. Sometimes it granulates and sometimes it doesn't, but I cannot tell you why. I think there is an element in the honey or in the weather, or something.

Dr. Bohrer—I think the kind of honey has something to do with it. In Central Kansas alfalfa honey will granulate sooner than any other honey. I don't eat anything sweet at the table except honey, but at home I drink hot water, and I season it to taste with alfalfa honey. My folks have a large bottle with a glass stopper, in which they prepare this honey, but I have to superintend it and put it in warm water every two, three or four weeks, so it will not granulate. Now, I have no other distinct and superior variety of honey that I am able to speak of. The fruit blooms are consumed during the breeding season, preparatory to the main honey flow. The kind of honey has something to do with the granulation, and I don't know of any preventive, except warming it in warm water about half an hour.

Mr. Hyde—I have had a little experience with it. I find that there are two conditions that will granulate our honey; that is, the coming of the cold weather will always granulate all of our Texas honey; but we have a honey here we call the "catclaw," and we sometimes get what we call a crop of 30, 40, to 50 pounds to a colony and this will granulate in July or August. We always harvest it before the first day of May, and it will granulate when the thermometer stands at 90 or 100 degrees. Our catclaw or mesquite honey will not granulate until the coming of cold weather; so the cold weather has something to do with it, I think; but the source from which it is gathered has more to do with it. I had a vial of honey shipped from Cuba, from one of our Texas bee-keepers, W. W. Sommers. I kept that honey for two years and it never granulated, and the same can be said of the California honey; it will not granulate under two years. The granulation is caused from the source from where it is gathered. Is there anyone here who knows what the honey is gathered from in California? I would like to hear.

Dr. Treon—With reference to the granulation of honey, I want to give the bee-keepers my experience, while I have not been in the business over four or five years. I had an early crop of honey that comes from the catclaw; this is our first surplus crop, and some of this granulated before it was all seasoned. I don't know of any other honey that granulates as quickly as our catclaw honey. As Mr. Hyde just said, I saw some that was brought from California, gathered from sage-brush, and it had been in a bottle and was as clear as I ever saw. I saw it in Hot Springs Ark., about a year ago. Now in reference to our other honey, the mesquite honey is a little slow to granulate, but as Mr. Hyde said, it will granulate on the coming of cold weather. Horsemint honey will even granulate in hot weather.

Mr. Laws—My experience is that all early honey will granulate much quicker than the honey produced in the Fall. Our catclaw and waheah will granulate sooner. I pack the comb in 5-gallon cans, and unless I sell it soon it will granulate. Our fall honey does not do this. Our honey that is gathered in rainy or moist seasons granulates slowly.

Mr. Teel—I went over into Uvalde one day, and slept that night under a catclaw tree. The next morning, when I woke, the first thing I noticed the bees were gathering honey from this brush. By 12 o'clock the temperature was warm and the honey was candied. It candies every 24 hours in August over there.

J. M. Hagood—I think sudden changes of the weather are the causes. If we all had cellars to store our honey in, I don't believe we would be bothered with granulation so soon.

Pres. Dadant—I personally have no objection to this. My experience is that early honey granulates before the fall honey is gathered; it is something in the time in which it is gathered, or the quality.

J. A. Stone—I want to offer an objection to the cellar; it will cause fermentation of the honey. If you had a furnace it will keep it all right; you want a warm place.

Mr. Teel—The cellar won't work in the South.

D. C. Milam—I wish to say from experience, that the waheah granulates quicker than the catclaw. I have extracted honey in the evening and next morning it would be granulated. Catclaw blooms in May, and its honey hardly ever granulates until some time afterwards. In regard to fall honey, I have also extracted fall honey from broomweed, and the next morning it would be granulated, and would not run; so the fall and spring honey granulates alike; but in warm weather it will not granulate as quickly as it does in the fall.

Pres. Dadant—In our climate the early honey granulates and the fall honey remains liquid.

Mr. Jones—I am from Uvalde County, Texas, and I agree with Mr. Milam. Our waheah honey granulates much quicker that catclaw. Now, our fall honey granulates very quickly, and is thick. This is my experience.

Dr. Bohrer—What do you do to turn it?

Mr. Jones—Nothing, only to heat it. As this man stated awhile ago about unripe honey, it granulates on the bottom, but it never granulates on the top; you will always find the granulation at the bottom.

Mr. Parsons—We produce very little extracted honey, but we pack our honey somewhat like the Texas bee-keepers, that is, a portion of it, that which will not injure the comb honey that will do to case, and ship it. We put that into tin boxes and extract a portion of it. I first fill the vessel full of the comb, then pour around it the extracted honey, and where I can put that honey into the cans and seal them as soon as it comes off the hives it does not granulate until the next year, probably late in the spring or the summer. If I wait until cold weather comes, along at this

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season of the year, to put it up, then by next spring it is almost a solid granulation; and it does not granulate that year if I pay proper atention to it, and by proper attention I mean keep it dry. I do that by building charcoal fires in my honey-room at intervals, owing to the state of the weather. If the weather should be damp and foggy I then go to the honey-house, build up a fire and keep it there until the house is dried out; but if, from any cause, I neglect it, then it granulates in the comb, and I think probably that would help out in almost every instance. If you will keep the temperature from getting down too low, or getting damp, it will do away with a good deal of the granulation.

Dr. Treon—I want to ask a little information and at the same time make some statements. The way I put up honey in this part of Texas, to prevent granulation of our catclaw honey, which is our first crop, I heat my extractor. We produce chunk honey; we fill the can partially full of comb honey; then pour in the extracted honey, then fill the can clear full. We cannot fill it full of chunk honey. With reference to granulation, I have had catclaw honey that will granulate in the spring and stay that way all the fall. What I wanted to ask was this: About 3 years ago we had a good honey-flow in this country—the majority of it was horsemint honey; we had lots of rain. This honey was sealed up and underwent a fermenting process, and the seals burst. I would like some one to explain this. In two or three weeks the honey would sour in the can.

Mr. Hyde—I didn't make myself quite plain when talking awhile ago. I never designated the different kinds of honey. Our chunk honey will granulate just as quickly as pure extracted honey, but our one-pound section honey will not granulate during the first winter.

Pres. Dadant—Now, we will come to the question of fermenting and the bursting of the caps. I have seen that quite often, which usually occurs with unripe honey; that is, honey that is not matured when capped, and it will ferment and burst the cappings; this is the case with basswood honey, but with no other kind.

Will Atchley—I have had some experience with the honey, and it has mostly been horsemint. I tried some experiments with it and was successful. Before it was sealed up, I carried it almost to a boiling point. The comb honey, I simply stacked it on. You take thin honey that is fermenting and it will improve from heating.

W. H. Laws—The case with this horsemint honey, if left with weak colonies, in my case, when it was placed over weak colonies for sealing and curing them, it failed to do it. I have seen this honey almost boiling out of the cells.

J. A. Stone—I have had honey that was fermented until it was not eatable, not marketable at all, and by heating it I could cure it entirely, and I do not heat it to the point of boiling.

Mr. Teel—I have had a good deal of experience where it was newly sealed, but I believe that it was caused from combs that had got a little moisture in them, a little wetting in the fall before, and the sour, vinegar-like substance would settle in the spring, which caused the fermentation. The best thing, is to do away with the combs when they get in that shape.

Mr. Jones—I have had some trouble along that line. Maybe it would be in a low place and a wet season, so I attribute it to the moisture that rose from the ground; that the combs absorbed this, and caused them to break. I have seen it in one-story hives often, and where the ground was damp all the caps would swell; but I have never noticed it where I had bottom-boards.

SWEET CLOVER SEED.

"Where can I get sweet clover seed that will grow?"

Mr. Stone—I think Mr. Holekamp can tell us.

A Member—I just want to say that I bought some sweet clover seed from an Ohio firm, I think about three years ago, and tried it for two years and never got it up at all. The last year I soaked the seed 24 hours, and planted it and it is up, and the clover is growing nicely now.

Mr. Holekamp—Two years ago I bought 100 pounds of sweet clover seed, I do not know who sowed it, but I understand that wherever these men have taken their Sunday afternoon walks that the clover grew all around there, and it must grow there else they would not say that. I don't say that they scattered it!

Mr. Kimmey—It is impossible for me to understand sweet clover not growing. I can not conceive how anybody can not make it grow, except people who don't want it; it grows like a weed. It has just occurred to me that sweet clover ought to be sowed in the fall.

Dr. Bohrer—The question with us is how to keep it from growing. I came very near taking up 100 plants and giving to the bee-keepers; it will grow, and can be transplanted the same as cabbage plants; then take the plants up, set them out where you want them to grow and you will never have any trouble. If you allow the seed to get musty then it won't grow; and I want to say that if any bee-keeper will send me one cent a plant, I will put up a plant and send to him this fall or next spring.

Mr. Stone—In Illinois, one of the professors at the University has discovered that there is a bacterium that is always on the root of the sweet clover. If they can get these bacteria, they say it will grow anywhere. They are advised by the professor to scrape up the dirt where sweet clover has grown, and sow it with the seed.

Dr. Treon—Most of these gentlemen who have been talking about sweet clover happen to live some place where it is raised. We people in this country have such long drouths that it has been impossible to plant it without irrigation, and even the alfalfa does not grow where it is irrigated. It may be due to the lack of bacteria. Now, I have what looks just like a tobacco leaf, and we are calling it clover. That is the only form of clover in this country, and it grows wild. I have seen sweet, red and white clover, but I never saw anything like that, and the bees gather lots of honey from it. There is very little of it in this country. If we can make sweet clover grow here, this will be an ideal bee country.

The Secretary then read the following paper by Mr. E. D. Townsend, of Remus, Michigan:

THE PROFITABLE PRODUCTION OF EXTRACTED HONEY

In assigning me this topic, I do not suppose our Secretary had in mind that I would say very much new or startling on this old, worn subject, but we all know that there are probably no two extracted-honey producers who follow the same, identical procedure clear through the season in producing a crop of honey. Admitting this to be a fact, it is evident that we are not all producing extracted honey to the very best advantage, which means at a less profit. Of course, the location, the environment of the bee-keeper, the number of bees one expects to handle—all have a bearing when discussing this subject.

Just a word about hives, then I will be ready to take up the main subject. We have had extensive experience with 10 and 13 frame Gallup, 8 and 10 frame Quinbys, and 8, 10 and 12 frame Langstroth hives. During the whole 30 years we have kept bees, many times the different sizes and styles were in the same yards, so comparison of the different styles and sizes were easily kept track of. The results are the two extremes; that is, the small 10-frame Gallup and the large 10-frame Quinby almost always showed up *poorest* at extracting time, and, on the other hand, those in the 13-frame Gallup and 10-frame Langstroth usually showed up *best,* with the 8 and 12 frame Langstroth and 8-frame Quinby a close second.

After this long comparison, covering several years each, many of the camparisons being with large numbers of colonies, I do not hesitate to say that for this location and my management, there is no size of hive that will produce more extracted honey, one year with another, than the 10-frame Langstroth.

Then, our preference is for a 10-frame body, using 8 of the regular Langstroth frames for our extracting upper-stories. This size and style of hive, and upper-story, suit us best, for our system of management, which I am about to describe.

The system we practice and recommend for this location (northern Michigan) for the profitable production of extracted honey is as follows:

At the close of the season (during August in Kalkaska Co., and September here at Remus), our colonies are all "hefted," and any we think have less than 25 pounds of stores for winter are fed up to 30 pounds. This gives us from 25 to 30 pounds of winter stores per colony—ample to last until the surplus season opens in June.

Our chaff-hive colonies are packed for winter about Oct. 1; those in clamps the last of November. The latter are set on the summer stands as soon in spring as the frost is out of the ground, usually the last week of March. These

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are wrapped in building-paper for spring protection.

There is nothing more done with either paper-protected or chaff-packed colonies until May 20 to 25, when the paper is removed from the clamp-wintered bees, and the chaff removed from the chaff-packed colonies, and upper-stories are given to all the medium and strong colonies. Those familiar with this locality, will recognize this date as being about two weeks previous to the opening of the main honey-flow in June. At this date our freezing nights are usually over, and our colonies are getting strong, although there is no honey coming in during this period. Were we to leave our bees in one single story, many of them would feel crowded, and swarm at the opening of our main honey-flow. Others that did not swarm would sulk, and likely store only a part as much honey as if they had been supplied with an abundance of empty comb-room during this period. This abundance of comb-room keeps the bees in that condition so essential for the best results in honey-production. The old way was to tear down the strong colonies to build up the weak. While the results will be about the same, this handling of brood-frames is neither practical nor profitable in extensive bee-keeping. One visit a week during the honey-flow, to give comb-room to store honey in, is all that is necessary, and as we have comb-storage to hold our crop, and do not extract until a week or 10 days after our white honey crop is over, one man can attend to four or five established yards of 100 colonies each, and do all the work until extracting time, when additional help is employed.

With this system, no queen-excluders are used. Put upper stories on top. While the queen will occupy the first upper story given, by adding additional upper stories on top, she will be crowded down into the hive below long before extracting time; while if this first upper story given, now containing brood, were to be lifted up and empty combs placed between, and were to continue this practice of placing our empty upper stories next to the hive, we would be quite likely to have the whole brood-nest in the upper stories at extracting time. But by placing the upper stories always on top, without extracting, we have been able to keep down swarming, and have an extracting department practically free from brood at extracting time. We have used queen-excluders extensively for several years, and find that about every third year we have excessive swarming when excluders are used; and as we get practically the same results without them, with the above management, we are discontinuing their use.

Each yard is provided with a 12 x 16 foot sectional honey-house, with all the necessary paraphernalia for managing them, so there is no moving of tools from place to place. This makes it possible to run one or more crews at extracting time as occasion demands.

Keep piling on empty combs clear through the season, being careful towards the close not to give unnecessary room, or, in other words, get every upper story sealed and finished that is possible, as sealed honey is of a much better grade than unsealed, even when left on the hives several days after the season closes, as is our practice.

A week or 10 days after the season closes—usually the last week in July in this locality—we begin extracting. As we have added all our upper stories on top, all our partly full upper stories will be on top at extracting time. These partly full upper stories are all taken off, and extracted separately, and the honey is sold at a less price than our best grade. This second-grade honey is as good as, or better than, most of the extracted on the market.

With this method we get about ¼ of our crop in No. 2 stock. The No. 1 stock is put into new 60-pound cans, and brings about 2 cents a pound above the market price, with more customers than I can supply.

In conclusion, I would say: Don't do unnecesary work with the bees. Don't do work that the bees can do just as well as you can. Don't handle brood-frames. Produce a superior article of honey, then ask a good, fair price for your product.

This is an outline of the way we are managing in the profitable production of extracted honey.

E. D. Townsend.

E. D. Townsend.

Mr. Holekamp—I use the 10-frame hives, and if I don't use queen-excluders my queens will go up all through the hives; besides that, it makes my honey dark. I get a much better grade of honey than I used to get. The honey is clear, and it is easy to do the work, especially when fall comes I do not have to put the frames of brood down; the brood-chamber is in good condition. I raise the front of my hives about one inch, which I believe assists the bees in coming into the hives, at least I find that since I raised the hives that my bees work quicker, I mean they fly into the hives without crawling on the entrance floor. There is only one objection, and that is, a person waits too long without taking it out; but we had an early cold spell this year and I have not tried them, still I don't see anything hurt. The hives are heavier this year than usual. Now, I am from St. Louis, and a good many people think I cannot get any good honey. Two years ago I had about 200 colonies of bees, and I extracted from them about 8,000 pounds of honey and left 10 or 12 pounds, for spring feed. This year I have about 110 colonies and got about 4,000 pounds of honey. I put on supers as soon as I think my bees will need them, usually about May 20, and as soon as I think the first supers are about half filled I put another underneath. This year our bees worked all summer. I have some colonies which stored from 100 to 150 pounds of extracted honey, while the weaker colonies did not do well. A good many colonies were wild bees, which accounts for the fact of the small crop. If the bees had been kept in a fair condition I believe we would have had a better yield. We have a good deal of sweet clover which helps our honey crop. Comb honey is an entire failure with me.

Dr. Bohrer—Do you get ready sale for the extracted honey there?

Mr. Holekamp—Yes, sir.

Dr. Bohrer—I think it is known by a number of members that I am engaged almost entirely in the production of extracted honey, for several reasons. I believe it to be the most profitable method of managing an apiary where I live, and it is certainly the most wholesome form to be taken into the human stomach. And I think it saves the bees very much time and labor. A great difficulty is taking care of combs, and it requires some care. As to the manner of manipulating the frames during a honey-flow, I use the queen-excluder in order to keep the queens from going above. And I empty the honey out above and put down below for the queen to fill again, and it is the most profitable manner for me. The people are acquainted with me all over the country, and outside of it, and I find no trouble in selling my honey. I don't sell to the merchants, because they want me to take goods in exchange alto-

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gether, and I don't live on goods altogether. I put my honey up in 5 and 10 quart vessels, and a great many people will buy a quart or a pint when they use it. But taking it all in all I find it to be the most satisfactory and the easiest manner of managing an apiary. I am not in love with putting sections together.

Mr. Kimmey—The gentleman has stated that the greatest difficulty he has found is in preserving the combs for future use. For myself, I would like to know how he overcomes it?

Dr. Bohrer—I have a house that is closed with ordinary doors, and hang the frames away there. I take the empty hive-bodies and put the frames in them and store them away, and then put them away as near dry as possible, and I don't have a great many millers, yet I have some; they will get in there occasionally.

Mr. Kimmey—Do you cover those hives at the bottom or top?

Dr. Bohrer—I set the hives down on a plain board, and I don't see how anything can get under them, and the hives weight each other down; then put a cover on and put a weight on them. This is as near as I know how to get at it.

Mr. Stone—I would like to have the author of that paper here, so that I could quiz him. I don't see how he keeps the bee-bread out of the upper stories.

M. E. Darby—I will answer this gentleman's question. I just extract my honey and then put the frames right back into the supers, and when the season comes the frames are all dry, all the honey cleaned up, then I take the supers off. I have a honey-house and I have never yet had a moth to get into any of my frames. I live near Springfield, Mo.

Mr. Cook—I first store the hives and empty frames, one on top of the other, but first making it so tight below that nothing could get in there at all. Then I put bi-sulphide in that.

Mr. Hyde—Some are discussing the moth-worms and combs; it seems to me that the subject was the production of extracted honey.

Pres. Dadant—It is the profitable production of extracted honey.

Dr. Bohrer—Mr. Townsend is all right. Now, in our locality that is all right, but he is not all right on the way we do up in this country. My plan is to put the empty frames next to the brood-nest. They will work those empty combs much quicker than above. I also agree with Mr. Townsend as to the queen-excluder, but I said it does not make any difference if we run for extracted honey; we are not going to eat it, and it does not matter about the pollen that goes up there. After I get disgusted with them I call them "honey-excluders," for they certainly will exclude the honey, and exclude the queen, so she cannot lay. Now, that gentleman over there, I agree with him about the size of the hive, a 10-frame hive. I have said why I did not like the excluder, and, as I stated before, I don't care anything about the pollen, because it is not in the way; and if the queen lays up there, she will lay up there annually and go down. And by the time you go to extracting again all the brood will be hatched out, and I don't care if I leave two or three combs in the second-story when I extract the first time.

Mr. Holekamp—I would like to speak about the moths eating the comb. Whenever I have comb without any pollen I have no moths; when I have pollen in the combs I have the moth. Then the second thing, I can taste the honey that comes from the pollen. I don't know how pollen tastes in your country, but it tastes very unpleasant in my country; it has a peculiar taste that I don't want.

Mr. Hilton—May I say a word in regard to the writer of this paper? I did not hear the paper read, but I live less than 50 miles from him, and there are a great many things that I know about Mr. Townsend and his methods, and there are a great many things that I don't know about him and his methods. This I do know, that he is one of the most successful bee-keepers in the State of Michigan; that he can produce the most honey with the least expense, and can run the most yards with the least men. He is a man that would not follow the occupation unless it was successful, and he is successful as to the manner and the matter of the queen-boards. I am not in a position to say why he does some of these things, but I am able to say that he does the things that are successful to him and his efforts. Consequently, he is right, no matter whether it would work in Texas, or Arizona, or any other State in the Union; but in Michigan it is a success.

Dr. Treon—I want to say something in reference to the method of keeping empty combs; that is one of the serious objections to Southwest Texas in producing extracted honey, in my observation. I take a bottom-board first and put it down; then put two sheets of paper on that, then I set the body with combs on it, and between each body put two newspapers. When I take my supers out in the out-yards, put foundation in them, stack them up and set them on a cover, there are no moths there, and they fit pretty well, and I have a number of times found those frames full of webs, that are made by small worms; they got in there and laid their eggs. The only way that I know to keep the combs is to fumigate them with sulphur, or bi-sulphide of carbon. And if there is the least bit of pollen in them, there will be no bees to protect the comb, and the web-worms will be in there in 48 hours. We cannot produce extracted honey as well as you people that are farther north, because we cannot carry over the combs. We cannot use the extractors as you do, for the reason that our bees swarm awfully, and it makes no difference if you shake them or draw brood from them, they will swarm anyhow, and some have swarmed in a day or two after I had drawn two or three frames of brood.

Mr. Parsons—While we are not producing extracted honey at present, I think I will tell you what we did in Florida. At each out-yard we have a bee-house. When the combs were taken off they were carried off into the woods where the bees took all the honey out of them, and then were carried back to the house. The room was built 8 or 10 feet wide and across the side we put small sticks, say one or two, that extended from one side of the house to the other, enough to take our frames, and they were far enough below so the combs could hang in there. We put in other sticks until we got all the comb in the house. Then every few weeks we opened those sticks and burned sufficient sulphur to kill the larvæ that were there, and the fumes of the sulphur being so strong in there the moths were not very anxious to get in. In that way we never lost any combs. We have some trouble now in taking out the hives that are necessary to keep. We have houses built the same way, and there is no danger.

Mr. Hatch—I lost combs the past summer by the moths, and I was talking to a neighbor bee-keeper who said, "I see you are a fool, and you are as I used to be. If you will take these moth-balls and put among your hives, they will keep them out all summer long." I said, "Have you tried it?" and he replied, "Yes, I have tried it for 6 years."

Mr. Aten—In answer to Mr. Treon, in trying to cut off the moth, I have had considerable experience. I will say that it is impossible, I have taken combs and sealed them up in air-tight jars, and the moth would eat them up. The moth-eggs were laid in the colony of bees, and if you don't fumigate them they will eat the combs up. Fumigation by sulphur is a success with me.

T. P. Robinson—I am a honey-producer exclusively, that is, I produce something like 16,000 pounds of comb-honey, and there were only six or seven cases of extracted honey. In the production of extracted honey I tried to keep my colonies built up very strong. If the combs are too heavy to extract I move them to the super where the bees will hatch out, and the bees will fill them up, and I extract again. This year I extracted from the brood-chambers, and did not leave any honey at all. The bees did all right; in a few days they had filled the combs again. For the last ten years I have had no damage. But as far as the moths eating the combs, Mr. Aten is correct.

E. J. Atchley—I have had some experience in producing extracted and comb honey, and I think the locality has something to do with it. If I lived in Mr. Townsend's neighborhood, I would hardly take time to eat and sleep, or drink, until I found out from him his management for the production of extracted honey, and I believe that if Mr. Townsend were in my locality he would have to change his plans to be as successful in Southwest Texas as in Michigan. Therefore we should run our bees to the best advantage according to our own judgment, and a little brood in the upper stories, or anywhere else in a hive should not bother us. It seems that the pollen packed in the combs can be taken out almost any time. And another thing in the production of extracted honey, my plan would be what is known as the "Dadant Plan." And as to keeping combs from moths, I

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think that every practical bee-keeper will keep the moths out of his combs. There are several ways. You can wash the extractor, and you can stack them up on the hives. I have three or four supers stacked on my hives today, and the strong colonies are protecting them. If I were in the North I would practice Northern methods, according to the most successful bee-keepers.

Mr. W. H. Laws, of Beeville, Texas, then read a paper on

THE COMPARATIVE PROFITS OF QUEEN-REARING AND HONEY-PRODUCTION.

In the discussion of the question of the comparative profits of queen-rearing and honey-production, I realize that it is a question that can not be settled by mere figures, made theoretically, but a question that can be solved only by years of practical demonstration right among the bees, and that, too, by a skilled queen-breeder.

To rear good queens, and to have them for the market at all times during the queen-rearing season, expert labor is demanded; without it, commercial queen-rearing is a failure.

To the man who can secure fair crops of honey, year after year, is not always due all the credit for his success; the bees do the labor, the locality furnishes the nectar, the bee-keeper only furnishing the hives and storage-room, and takes care of the swarms.

I know just such men who make money from their bees by honey-production alone, who give the bees no more attention than that just stated; and these men seldom see a queen-bee from one year's end to the other. It is unnecessary to say that such men, though successful in honey-production, are totally unfit for queen-breeding.

Many persons, successful as honey-producers, and also familiar with the conditions generally with the interior of the hives at all times, become enthused at seeing the multitude of young queens hatching about the swarming period, and conceive the idea that if they could only get all these young queens mated, and sell them at a dollar each, (by advertising a little), they would see the dollars roll in, while the bees were waiting for a crop of honey!

There is only one reason why a person should embark in the queen-business in a commercial way, and that is environment, coupled with a natural love for the business.

By environment, we mean where a person is so situated that he can not secure a marketable product of honey from his locality, or where the flow of nectar is slow and of long duration, so that the bees use the greater portion of the season in swarming, or as was the case with myself in a former locality where at times the honey was so bitter that it was impossible to dispose of it on any market.

Where the above conditions exist we can readily see where the queen-breeder might do well, while the honey-producer might have a pronounced failure.

On the other hand, any locality that has short, heavy flows, one or more during the season, and between these flows comparative idleness of the bees, these conditions would be much better for the honey-producer rather than the commercial queen-breeder.

The best possible condition, therefore, for the queen-breeder is one long-continued, slow flow of nectar throughout the entire season.

In my first years of producing honey, for the market, away back in the '80's, I lived in a locality that sometimes yielded bitter honey; this flow of bitter honey would usually come late in the season, after the white honey crop had been gathered. Some seasons, however, the late summer rains would bring the flow earlier, and the bees would store it right along with the white honey. This would spoil all for market. I remember one winter, when my honey-house floor gave way because of the weight of bitter honey stored for use in making increase the following season, before the busy season had arrived, I had figured out that if this bitter honey was to continue to be a product of my apiary, I would better establish some better form of disposing of it than simply making increase of bees by the use of this honey. So before spring I had already determined that it would be better to turn the product of the apiary to first-class Italian queens rather than bitter honey.

W. H. Laws.

Since changing locality, moving 700 miles further south, conditions and honey-flow have wonderfully changed, and possibly had I not been in the business I would not be now known as a commercial queen-breeder.

My present locality, while almost an ideal one for the rearing of early queens, is also one that is ideal for an early white honey crop, providing weather conditions are favorable, which, unfortunately, have been against us for the past two seasons.

Then there are other features of the business that are to be taken into consideration—the ability of the breeder to rear good queens, and have them to ship promptly at all times, in and out of season, his aptness and fitness to make and hold a market, by prompt and agreeable service; his prompt attention to correspondence; the satisfactory adjustment of all complaints; the proper caging and mailing of queens, which make tedious and sometimes long journeys through the mails; and his determination to stay with the business through adverse as well as through prosperous seasons. It is a combination of all these little details that go to make success, and it must not be forgotten that many long and weary hours must be put in at queen-rearing that are unknown to the producer of honey.

Since the keeping of out-apiaries for honey has become so practicable and popular, the advantage to the honey-producer exceeds that of the queen-breeder. Hundreds of colonies of bees can be run for honey, systematized into out-apiaries, and be made more profitable to their owner than if he were to devote the same amount of labor to the production of queens, and, necessarily, to a fewer number of colonies.

In the foregoing no mention has been made of the progress of modern or expert queen-rearing, for it is possible to rear queens at a greater profit now than in former years; but to figure the difference in the profits of queen-rearing and honey-production—just when and how this is to be done, I do not know where to begin, for so much depends upon conditions, the locality, and the man, that it would be mere guess-work.

We sometimes know of men who have produced 30,000, or 50,000, or 75,000, and occasionally a man that produces 100,000 pounds, of honey, in a single season, which when sold would bring the modest little sum of $3,000 to $10,000, I dare say there are none of our leading queen-breeders who realize half this amount from the sale of queens, not counting the fact that every apiary run for queens is weakened—if not ruined—by the excessive sale of this product. All colonies run for honey are easily kept in a normal, thrifty condition, while queen-rearing yards have frequently to be fed.

We now leave this subject to our brother bee-keepers of this Association, who may weigh the matter with their own minds, and render a verdict according to their judgment.

W. H. Laws.

Pres. Dadant—The matter is open for discussion now. I think the rearing of queens in the South is of great importance.

W. H. Laws—I wish to say that this matter is of but little importance to the honey-producer. I will also say that I have made a few figures. I think that these people have spent on an average of $40 to $50, and, figuring it up, it seems about $40 per hour while we are in session, and I want to call your attention to the fact that a Mexican Supper has been prepared for our members.

Mr. France—I assure you that this is a part of the program that the Northern people appreciate, and in order to make everything satisfactory, Mr. Toepperwein says that it will be wise to go soon. The distance to this first-class Mexican supper is a little too far to

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walk, so we are advised to take the car. Mr. Toepperwein will go with the first section, and Mr. Laws with the second.

The meeting then adjourned until 8 p.m., and all attended the Mexican supper, given at the "Original Mexican Restaurant."

SECOND DAY—Evening Session.

The meeting was called to order at 8:30 by Pres. C. P. Dadant. The first half hour was spent in listening to an address by Judge T. M. Paschal, who went to Los Angeles in 1903 to help bring the National Bee-Keepers' Association to San Antonio, his subject being, "The Bee-Keeping Resources of Texas."

Pres. Dadant—There was to have been a paper read at this time by Dr. E. F. Phillips, of Washington, D. C., on "What Science May do for Bee-Keeping," but as he has not arrived yet we will proceed with other business. The subject for the evening is the report of the Resolutions Committee on freight-rates. We will hear from the Secretary.

Report on Freight-Rates.

We, the Committee on Resolutions, recommend that the following resolution be passed by the National Bee-Keepers' Association, in convention assembled:

Resolved, That a committee of three be appointed by the President, of which the General Manager shall be one and be its chairman, for the purpose of securing more favorable freight-rates on the products of the apiary, namely: honey, bees, and beeswax; That the Board of Directors be requested to pass a resolution authorizing and directing the General Manager of our Association to pay out of the funds of the Association the necessary expenses of the Committee, and such expenses as may be incurred in bringing before the railroad officials such articles as may be necessary to demonstrate the packages on which reductions are desired.

Robt. A. Holekamp,
Jas. A. Stone,
C. C. Parsons,
Committee on Resolutions.

Pres. Dadant—The matter is open for discussion now, and I would like to hear from the members as to their opinion on these resolutions. Let us hear from Mr. France.

Mr. France—So long as my name is mentioned in the resolutions I ought to be quiet. That involves lots of work; it means hard work, and that committee will have more to do than you realize. I feel that it is of the greatest importance who that committee are. As for suggestions, the Resolution Committee has nearly covered it, what is expected. I don't know of any way that we can use the funds of the treasury to a better advantage than for something of this nature; for every one has more or less shipping, and will get direct results, whatever they may be.

Mr. York—Mr. Chairman, in order to do this I move the adoption of the resolutions.

Dr. Bohrer—I would like to hear the resolution read again.

Wm. Atchley—Does that include express-rates, or freight-rates only?

Pres. Dadant—Freight-rates only. It is more difficult to do anything with express companies than the railroad companies.

Mr. Anderson—I see dawning in the distance that which I have hoped for, at least ever since I have been a bee-keeper. The transportation facilities of the bee-keepers' products have been so inconvenient in many localities that it has actually put a stay on the progress of the industry. I have longed to see the time when the National Bee-Keepers' Association would be acknowledged by the railroad companies as a power in the Nation. I want to congratulate the Committee on Resolutions for the work they have done.

Dr. Bohrer—I, like Mr. France, think that when we tackle a question of this kind we have a big question to buck up against. All that can be done outside of actual organization, not only through the State legislative body, must be done by appealing to the railroad companies ourselves, and bringing our committees to their special notice. I believe they are reasonable men, and something may be accomplished in that way. Now, I understand that much is put up in packages that are condemned, but if these packages are more secure the railroads will take them. This committee can bring this matter to bear and present it, not only to the bee-keepers, but to the railroad companies. There is not a man or woman that has any produce whatever but feels that extortions are practiced upon them. Years ago, up in Kansas, our railroads were controlled by the Inter-State Commerce legislation, but the State can only control the railroad company to an extent, and when it passes out of the State we have no control over it; and it is the duty of every bee-keeper to make an appeal to his Representative in Congress. Whenever the interests of the country are at stake it takes the people to do it; you have to appeal to your Representative. What is the condition we find now in our Legislative Assembly? Are the true representatives of all the industries of this country over-whelmingly in majority in the House and the Senate?

Pres. Dadant—I wish to call your attention to the fact that you are getting off the subject. Keep within the limits.

Dr Bohrer—I will do it. *There* is where you have to commence—you have to put representative men in these bodies, or you will not get justice.

E. J. Atchley—I think the question that is before this Association is one of the greatest importance that can come before this body, inasmuch as we do not consider it at all fair that the railroad companies charge us $450 per car to transport our bees to Colorado or Utah, when a car of cattle will be carried the same distance for $110. We have appealed as far as possible to the railroad companies, and the agents themselves have felt a surprise that we would have to pay this amount for a car when we attend to the bees, load them ourselves, take them off the cars, and bear all the burden of the journey, while the cattle are loaded by the railroad companies, unloaded possibly two or three times and fed, and they only pay $110. Under the existing circumstances, when we take into consideration the rates on bees, when we want to ship, it cannot be done, and I trust and hope that our President may appoint men that may bring to bear, with the force of himself, such a great need of a lower rate on bees that something will be done, and that we will get this lower rate in the near future. I trust he will use his best judgment in selecting this committee.

Mr. Hilton—The resolution that is before the body is certainly a very important one, and much has been said touching directly upon the subject, and perhaps some things have been said that did not touch directly upon the resolution. Having had some experience from a legislative standpoint, I don't know whether appealing to National Legislation would help us very much; but this I do know, the country is divided up into divisions by the railroad companies, and if we act in concert we must appeal to first one division and then the other, until we get the three divisions of the United States to act in unity, to get the best results. I think that the railroad companies are ready to act when they learn the situation, and I understand that they have been informed to the extent that they have made the concessions asked for, and as a committeeman for two years in my State, I found the railroads were ready to listen to men that would interest themselves, and railroad men and railroad corporations are just as ready to respond to the pleas of good men as the President of the United States, or any other man. And, as I say, if this resolution is carried, and this committee pursues its work diligently and personally, a better state of affairs can be brought about, and it behooves us to do the things that are going to help us and our fellowmen. And I say again, that I believe the railroad corporations will meet us with open hearts and open hands to do those things that will increase their business, and decrease our expenses and increase our profits.

Pres. Dadant—If there are no further remarks, I will put the question: All in favor of this resolution signify by saying Yes. Opposed, No. The motion is unanimously carried. The committee has asked that Mr. France act as Chairman. He is one of the best workers. The man who brought this before this meeting is Mr. Muth; he deserves to have a share in this matter, and should be upon the committee. I so appoint him. The third man ought to be a bee-keeper who understands transportation and who produces a good deal of honey, and is acquainted with the railroad companies. Mr. Holekamp should also be on this committee; he has shown what he could do, and he would make a good member. So I appoint those three men.

Mr. York—This committee is going to have a good deal to do, and nothing would help them as much as to have a large membership in this Association. The railroad men are going to ask them how many are in it, and if they could say that they represent 10,000 bee-keepers in this country, they would prick up their ears and listen. I have understood that in some parts of the country the members are beginning to drop off a little bit. It seems to me that we ought

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to go out all over the country and increase the membership. A large membership means a whole lot, and when this committee goes before the Legislature it will stand a better chance of getting what it asks for. I agree with Mr. Hilton, that if we send out these three men, and they are backed up by a large Association, they are sure to win.

Mr. Stone—I don't think anything helped us to secure our Foul Brood Law but the members that were on our roll in the State of Illinois. I believe that Illinois has more members than any other State in the National; it is up in the hundreds.

Pres. Dadant—I wish to say that Mr. Stone knows what he is speaking about and I think it is through him that most of those Illinois names have been gotten on the list. I hope that the members will help add other members to the National through the State associations. Unity makes strength.

Mr. France—While we are on the subject of financial affairs, I will make the following statement, which is a little in advance: Betwen Nov. 1 1905, and Nov. 1, 1906, I received dues at 50 cents each, from 832, making $416.00, and I have received the dues of 110 at $1.00 each, making $110.00. The resolution that we come in a body was first presented to the National Association by Mr. York at the Philadelphia meeting. The first State to take advantage was New York. My own State (Wisconsin) immediately followed, until nearly all of the States have taken advantage of it. Our expenses this year have been a little more than our total income, and you will see where the expenses have been. On the postal cards calling for reports, I gave suggestions, wherein the National might improve. Too many have looked toward the Manager of the Association to do the work and to make the improvements. I cannot accomplish that alone; it needs your assistance, and those crop report postals with personal suggestions have helped me in more ways than one. I wish more of you would take advantage of the Information Bureau. It is worth more than it costs. I am glad this freight-rate question has come up. Then another question has come up: Cannot the National market the honey? I hope you will never ask the National to sell your honey. It is too big a job. But I do believe that all our State and local organizations can do a great deal in that line. Each bee-keeper ought to sell his own products. This has finally resulted in my getting up what I call a "Seal Label" for the Association's members.

Mr. Muth—Referring back to the committee on freight-rates, don't you think it would be a good idea to have the members write us suggestions?

Pres. Dadant—This you can call for, and let them understand it. Any suggestions to the chairman of the committee will be communicated to the other two members—any information in regard to rates, honey and beeswax.

The League Fund.

"Has the National Bee-keepers' Asociation received the fund mentioned at the last meeting, from the Honey Producers' League? If so, what is being done with the money?"

Mr. France—There was turned over to me on May 30, 1906, the amount of $1408.27. There was to be a committee apointed to use it for the purpose for which it was originally intended. The Board of Directors were to appoint a committee. I was notified as Treasurer of the Association that I would be one of that committee, and was asked to suggest some others to work upon that committee. I said, "Let the President and Secretary of the League be the other two. The Secretary is expected to act conditionally, but the President, Dr. Miller, declined to serve, and until a third man is selected nothing can be done. We want a committee that will give it justice and satisfaction. I think, however, that in the near future the fund will begin to move in the direction intended. It is not wasted, the fund is lying there, and there are no commissions on it.

Something Historical.

Dr. Bohrer—I was at the first National meeting of bee-keepers held in Indianapolis, in 1871. At that meeting we received a telegram from Mr. King the editor of a bee-paper, the name I do not know. He was manufacturing and selling a good many hives known as the "American Bee-Hive." At that time the ability and claims of Mr. Langstroth were called in question, and we received a telegram from Mr. King requesting us to meet the bee-keepers in Cincinnati the following February. We agreed to meet them there. Another association was organized called the American, and we concluded to meet one year from that time in Cleveland and unite the two. Mr. Quinby was elected president. I was elected as the vice-president. Mr. M. M. Baldridge and I were there. Mr. Langstroth was at Cincinnati. And speaking of the matter of pictures, we have the photograph of Mr. Adam Grimm. If any of the bee-keepers would like to see it, I would like for Mr. York to exhibit it, as he has it, I think. I also thought I had given him D. L. Adair's photograph, but I think that possibly I have that at home, and, if so, I will send it to Mr. York and have that published, because Mr. Adair, I think, perhaps, gave the first idea of the honey-section so extensively used among bee-keepers. He gave me one of his hives and sent it to me. I think there, perhaps, originated the idea of the section. That is about as much as I know about the first Association. In Cleveland it was known as the American Bee-Keepers' Association. The first one was known as the North American Bee-Keepers' Association. I think that the third meeting was at Cincinnati. That is the early history of this Association so far as I learned it.

P. D. Jones—I subscribed for the American Bee Journal in Cleveland, Ohio, in 1871, and have taken it ever since. Captain Hetherington, of New York, was also there.

Mr. Coggshall—I have had the American Bee Journal since 1861. It was published in Washington then. I have all the back numbers.

Dr. Bohrer—Does anybody know the name of the editor that published the paper shortly before the American Bee Journal was resumed?

Mr. Jones—I can not tell you now who published it, but I have all the numbers at home. I can tell you when I get home.

Pres. Dadant—These are reminiscences of our old members, and we are glad to hear from them.

Mr. York—I think it ought to be made a matter of record that Mr. P. D. Jones, of New York, and Dr. G. Bohrer, of Kansas, who were present at the first meetings of this Association, are attending this meeting.

National Office-Holders.

"Is it true that some office-holders of the National Association are abusing the confidence of the membership for purely personal gain? A charge of this kind has been made against supply dealers."

Dr. Bohrer—I will inquire who the officers are, except it be the President himself. If they are swindling anybody it has not hurt me.

Mr. Muth—I should think that such sorry questions should be thrown in the wastebasket.

Dr. Bohrer—I want to say this: We ought to be pretty certain that it has been abused, and if anyone knows of an officer that has been abusing this confidence, he ought to speak out.

(Continued next week.)

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to he Bee Journal office.

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Conducted by J. L. Byer, Mount Joy, Ont.

How to Clip the Queen

By the time this is in print, bee-keepers in some localities will have clipped their queens, but in the more northern parts the majority will be just thinking of starting at the work. Nearly every bee-keeper has the "best way," and as the writer is no exception to the rule, I want to tell you how I proceed in this important part of the work in the apiary.

Nearly all instructors say "catch the queen;" but in my estimation this is entirely unnecessary, as I never think of touching a queen with my fingers unless once in a great while one should happen to leave the combs and be found on the side or bottom of the hive.

However, we have to *find the queen*. This done, the lower corner of the frame is let rest on the hive, and is held by one end of the top-bar in the left hand. In the left hand is held a fine pair of curved-pointed surgical scissors bought expressly for the purpose at a cost of 60 cents. As the queen runs *up* the comb, slip the point of the scissors under wing or wings as desired, and the work is done quicker than you can tell how on paper. It may seem a little difficult at first, but by practising on drones it is surprising how easily you can become proficient at the job.

The past 2 seasons I have clipped at least 200 queens each spring this way, and have never made a mistake. I am quite sure that every year a lot of good queens are balled and lost after being handled; with the method described the queen very often hardly notices that she has been touched.

One of Ontario's extensive apiarists spent a day with me last year during queen-clipping, and he declared that I "did the work too quick for him to see *how* it was done," and at *different* times I had to point the queen out to him after she had run around on the other side of the comb, in order to convince him that I really had clipped her wings.

I am quite sure that after one has learned "how," that he will never go back to the old way of catching the queen in his fingers.

Sugar-Maple Sap for Bees

A few years ago, while we yet had considerable forest near us, we usually expected our bees to gather considerable of the sap from the sugar maples, that would evaporate on the stumps of trees cut during the winter. I have seen them during warm days the last week of March and first week in April, working as busily as though there was a regular honey-flow on, and whenever the weather was fine at this season of the year, the brood-rearing received a tremendous impetus.

I remember one spring the branches of the trees were badly broken by an ice-storm, and the sap was oozing out of the hard maples everywhere. Strong colonies stored as much as 2 combs full of the syrup, and one warm evening there was a roar in the apiary as though we were in the midst of a honey-flow.

I am sorry to say this is a thing of the past here, as we now have very little bush left; but this does not prevent me from *thinking* what I would do if I were located near a large bush of sugar-maples. About the time the boys say "sap's runnin'," I would with a light hatchet score lightly on the south sides as many maple-trees as possible near the apiary. To be sure, if the trees were not on my own property I would first secure the owner's permission to do the work.

While we do not often hear anything of the sugar-maple's value to the bees in the early spring, yet there is no question that they are a great help, and at least a few bee-keepers every spring follow the plan I have just outlined.

Mr. Craig to Continue as Editor of Canadian Bee Journal

On Feb. 11 the bee-keepers' department of the Goold, Shapley & Muir Co.'s establishment was badly damaged by fire, as mentioned on page 228. At the Brantford convention a number of us visited the factory, and while walking through the storeroom where a very large supply of frames, sections, hive-bodies, etc., was stored, I remarked that this would be a bad place for a fire, little thinking that within 2 weeks all of the stock would be destroyed. Fire is bad enough at any time, but particularly so in an establishment of this kind in the early spring, when the bulk of the next season's stock is all ready for shipment.

The bee-keepers' supply business was merely a side-issue with the Goold, Shapley & Muir Co., their firm being extensively engaged in the manufacture of windmills, galvanized tanks, concrete mixers, etc., and in view of the fact of their wood-working plant being destroyed, they decided to sell out the bee-supply business to Messrs. Ham & Nott, a firm that has engaged in the wood-working business in Brantford for some time. This firm has also taken over the Canadian Bee Journal, and I understand that Mr. W. J. Craig will continue as editor.

The Messrs. Ham & Nott have our best wishes, and we trust that the supply business may be a success with them; and also that the Canadian Bee Journal, under their management, will be a live medium, and truly representative of the calling to which it is devoted.

Contracted Hive-Entrances in Winter

Allen Latham says that colonies that have entrances contracted to one side of the hive, if the cluster happens to be on the opposite side, die every time. Editor Root agrees pretty much with this view, and yet, not so very far from here, lives a well-known bee-keeper who winters from 300 to 500 colonies with the hive-entrances all at one corner of the hive. Where he lives the thermometer often falls to 20 degrees below zero, and the bees are generally confined for 4 months or more without a flight. Yet he winters the bees as successfully as any other bee-keeper in the vicinity.

It would be interesting to have Mr. Latham explain why his theory does not work out in practise, here in Ontario.

New Pure Food Law

Under "scare" headlines a well-known bee-keeper and chemist advertises in one of our papers as follows:

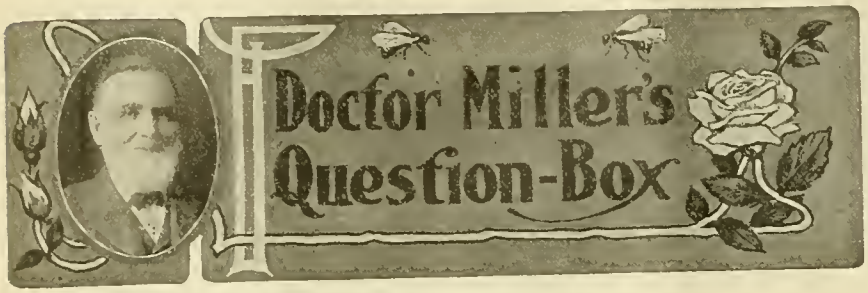
"The new food law takes effect Jan. 1, 1907."....."Even that gathered from your own bees is not sure to pass inspection if it is near a city or honey-dew localities, or you feed your bees sugar syrup in the fall."

It appears to the writer that this is pretty strong, and if the Pure Food Law is going to work down fine like that, there is a possibility that it may act as a boomerang.

As to honey-dew, if a small quantity of that in honey would come under the ban, I suspect very little Ontario honey would have passed muster last year. Anyway, suppose a bee-keeper sent a sample to said chemist for analysis, and the verdict was "genuine," how would he be sure that a sample taken from another tank would turn out the same? Suppose, in a pinch, he might send the whole crop for analysis in order to be positive. This might be a good thing for the chemist, particularly as the bee-keeper would likely be glad to turn over the honey to pay the fees for analysis!

Joking aside, I believe there is a possibility of "straining at a gnat and swallowing a camel" in this matter, and while I have no sympathy with adulteration, it is to be hoped that United States apiarists will not be in such a dilemma as the advertisement quoted from would lead us to believe was the case.

American Bee Journal



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Growing White Sweet Clover

Have you any white sweet clover seed for sale? If not, where can I find some. Also at what time of the year should it be planted?
MICHIGAN.

ANSWER.—I have none; but you should generally find it advertised in the bee-papers about this time of year. It may be sown spring or fall, or any time when red clover may be sown in your locality. The principal point to look out for is to have the ground rolled or tramped down hard after it is sown. If the ground is soft the sweet clover is likely to be heaved out the first winter. It seems to do best on a hard roadside, and the nearer to that you get your ground the better.

Testing the Purity of Italian Queens

Please turn to page 259 and tell us whether your views as to the purity of Italians agree with Mr. Doolittle or "Subscriber."
WISCONSIN.

ANSWER.—When a man as prominent in apicultural literature as Mr. Doolittle comes out in a positive manner on any particular point, especially when he controverts what some one else has said, he must expect to receive some whacks in return unless he has somewhat reliable facts to back him up. More than once he and I have crossed swords, and there are few men I'd rather have a spat with than the same G. M. Doolittle, for when the smoke of battle clears away we're always as good friends as ever; so I have no need to hesitate to give my opinion in the present case. And that opinion is that you can swallow every word that Mr. Doolittle has said in his article, page 259, and he has done good service in writing just as he has written. I'll call attention to only one point. "Subscriber" says, "Every drone must have 4 yellow bands.....Every drone is marked alike." I've seen a good many drones in my time, have reared them from a number of queens imported from Italy, and I don't recall that I ever saw one that could be fairly said to have one yellow band, if indeed a band of any kind, to say nothing of 4 yellow bands. Yes, indeed, Doolittle in all right in that article.

Keeping Bees in a Back Yard

1. I live in town and have ordered 2 strong colonies of bees to be delivered in May. I expect to put them in my back yard, which is 30x40 feet, with a good building on the alley 6½x9 feet and 9 feet high; or would you advise me to put them in this building? The building has house-siding and floor laid with flooring and a shingle roof. There is a door in one end and a good window in the other.

2. There is a dwelling house on the next lot, about 10 feet from the fence, which is 6 feet high. There is a 6-foot tight board fence all around my yard except the side which my house is on. Is this fence high enough to protect people driving along this alley, and the people who live in the house close to the fence?

3. In case I put these bees in the building it will be necessary to connect the hives to the outside of the building with a 2-inch tube. Will they do as well in the building as outside?

4. Will not rats or mice crawl into this tube in the summer at night and damage the combs in the brood-chamber?

5. If I should nail coarse wire-cloth over this hole would that interfere with the bees while working?

6. Do you think I have made a mistake in attempting to keep bees in town?

I do not know anything about bees except what I have read in text-books.
PENNSYLVANIA.

ANSWERS.—1. Very likely it will not be as well as to put them outside.

2. Very likely it will protect successfully. The mere fact of being in a building would be no protection to outsiders against the bees, provided the bees arose from the same height in each case, and the likelihood is that they would be higher in the building than on the ground. A bee rising from the ground to cross that 6-foot fence would not be as likely to interfere with a passer-by as one starting from a point higher up.

3. I'm afraid not quite so well.

4. No; the bees are thoroughly competent to protect their combs night or day in summer.

5. No; 3 meshes to the inch would allow free passage to the bees, while barring mice. But as already intimated, it would be useless to do anything of the kind in warm weather; the bees ask no help from you.

6. Likely not; yet you can tell better after trying. Much depends upon the character of your bees. There are bees so cross that they would be sure to make trouble for you. Something also depends upon your management. You can stir up even gentle bees by untimely handling so they will sting everything within reach. Be careful about opening hives when bees are not gathering much. There may be an advantage in working rather late in the day, for if you make bees cross in the morning they have the whole day to trouble the neighborhood. If you find your bees are not gentle you ought to introduce queens of gentle stock, pure Italians, or possibly Caucasians.

Lake Superior District for Bees

Please give me any information you can concerning the State of Wisconsin near Lake Superior for bee-keeping. I am thinking of going there about April 1. KENTUCKY.

ANSWER.—There are many fine locations in Wisconsin, especially where basswoods are plenty. The chief trouble is that in general such locations are fully occupied. It would not, of course, be wise toward yourself nor right toward others, to locate where the ground is already occupied, so the thing to do is to look over the ground personally to find the proper opening before settling. Of course, as to individual locations, I can give you no information.

Bee-Keeping in North Dakota—Trouble With Queens

1. Do bees do well in North Dakota? started last spring with one colony and increased to 4. Each hive was full in the fall besides 30 pounds of surplus honey which took away. The hives are 10-frame, each frame about 17x6½ inches. One frame of honey weighed 9 pounds. The honey is as clear as water and of fine flavor. It is obtained mostly from a flower that looks like sage which grows in the wheat-field. My bees are in the cellar and are doing well so far.

2. I had bad luck with one colony. Their first queen was lost in mating. I gave them brood, and their second queen was lost. Then I sent for 2 queens. I placed one in on top of the frames in the cage and let the bees eat her out. In a few days I examined and she was missing. Then I gave them the other. She went also. Then I gave them more brood. They reared a queen, but it was so late she failed to be fertilized. What should I do with that colony in the spring?
NORTH DAKOTA.

ANSWERS.—1. It seems to be a very good place; at least your bees did well last year. If you can have such success every year you will have no occasion to complain.

2. The best thing is to unite with other colonies, unless you want to send off for a laying queen. Very likely you'll not be willing to take such advice, but will give the queenless bees a frame of brood to have them rear a queen. That looks on the face of it a wise thing to do; but if you're wise you'll not do it. In the long run, you'll be the gainer to unite now, and not try to rear any queens till later on.

Bees Died in Winter—Swarming Out—Spring Management—Robber-Bees

1. I put 6 colonies into my cellar last fall; 3 strong in bees and stores and 3 that were rather weak in both. The weak ones came out all right and the strong ones died. My cellar is rather warm, and those large colonies were very uneasy all the fore part of the winter; the bees died very fast, and they were all dead 6 weeks ago. What was the cause of their dying?

2. I set the bees out of the cellar March 22, the thermometer being 60 above zero in the shade. They had been out but 2 hours when a swarm came out of one of the hives and settled on a bush and was there about an hour. Then I put it into another hive with some old combs that I took from the hives where my other bees had died. Was that all right? By the way, the old combs had plenty of stores.

3. Isn't it a rare thing to have a swarm so early in the spring and so quickly after setting out, especially in this northern locality? What was the cause?

4. I have about 25 old combs that I took from the 3 hives where the bees died the past winter. About ¼ of the lot of combs are filled with good honey and considerable pollen that is very sour, and the bottom part of the comb is rather moldy. Will the bees clean them up, or will they do to give to a newly-hived swarm later on?

5. Will they do to put into my other hives this spring for stimulative feeding?

6. Do you contract the entrance in the spring during cool nights? If so, how much? Is it not a good plan to contract the entrance on account of robber-bees in spring?

7. What is a good sign of bees being robbed, and what will stop them? IOWA.

ANSWERS.—1. The warmth of the cellar may have had something to do with it, but probably still more the closeness, and lack of pure air. The stronger the colony the more this would cause uneasiness, and the more rapid the deaths. If there was light in the cellar, that would make it worse.

2. Yes, that was all right, although it probably would have been as well to have given

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them at least part of their own combs, for likely they were cleaner than the combs of the strong colonies that died. That is, you would return them to their own hive, and then give them enough full combs from the dead colonies.

3. Unfortunately such swarming out is not so very uncommon. It is not swarming in the way of usual swarms later in the season, but merely deserting the hive, and may have been what is called a "hunger swarm," deserting the hive because near starvation, although sometimes colonies desert in spring, leaving plenty of stores in the hive, and it's not possible to tell why they desert.

4. Yes, the bees will clean them up, and they will do to hive a swarm on, unless too sour and dirty, in which case the swarm would desert.

5. I'm not sure whether it would be exactly classed as stimulative feeding, but you can do nothing better with them than to give them to settled colonies to clean up. Don't give too many at a time, if they are pretty bad; but 2 or 3 at a time in the brood-chamber will be cared for all right, giving them in place of combs that are very light in honey. Or, you can give a whole hive-body filled at one time, putting it under the colony, only you must have things pretty well closed up so as not to invite robbing. Everything must be close and snug except the one entrance at the bottom of the lower story, and that should be as small as possible without troubling the bees about getting out and in.

6. Yes, just as soon as my hives are taken out of the cellar the entrances are contracted to a hole ¾ to 1 inch square. It helps against robbing, and keeps the bees warmer, day and night.

7. When you see unusual activity at the entrance, especially if the colony is weak, catch one of the bees that comes out with considerable bustle, kill it, and see if it has honey in its sac. If it goes *out* with a full sac, you may count there's robbing. Close the entrance so that only 1 or 2 bees can pass at a time, pile hay or straw at the entrance and at the sides till as high as the hive, and drench it well with water. In a large number of the cases of robbing that occur in spring, it is because the colonies are queenless and practically worthless, and the best thing in such case is to let the robbers carry out all the honey without disturbing them. About the worst thing is to take the hive away, for then the robbers will pitch into the adjoining hives. If you take the hive away, put in its place another hive just like it, with a comb or combs having just a little honey in them, letting the robbers clean out the little honey without disturbing the neighboring colonies.

Wintered Poorly—His Best Adviser

On March 25 I put my bees on the summer stands with but little encouragement. Out of 27 colonies I have only 8 left. That is the result of bad fall honey. I will not do like Mr. "J. T. P.," on page 225, discontinue my best adviser. I will stay by the "old reliable" American Bee Journal.

CHAS. O. BERGSTRAND.

Amery, Wis., March 29.

Poor Season in 1906—Another Tall Bee-Keeper

Last year was a poor season for bee-keepers here. I secured 1150 pounds of comb honey and 789 pounds of extracted from 74 colonies, spring count. I now have 90 colonies in good condition. I sell all of my honey around the country and at home at from 14 to 16 cents a pound for comb honey, and 10½ cents for extracted. It is all sold. I work alone with the bees from spring until the harvest is over, about the first of August. Then after that I work at my trade some, which is that of a carpenter and joiner.

It seems to me that the Editor of the American Bee Journal, on page 66, is inclined to boast of Mr. Louis H. Scholl, and that Mr. A. F. Foote, on page 216, is somewhat jealous of him, his man, Mr. Isaac Wayne, being 2 inches better—6 feet and 4 inches tall. Well, now I think that I must blow my own horn, as there seems to be no one else to do it. I am 6 feet and 8 inches in height now, and until 5 or 6 years ago I stood 6 feet 9½ inches in my stocking feet. I was born of German parents in East Troy, Walworth Co., Wis., in February, 1844. I am not a fleshy man, but at present tip the scales at 257 pounds. In the latter part of my teens and twenties I challenged the State of Wisconsin for a Badger of my equal or superior, through the Fond du Lac Reporter, but they did not produce him, and I still hesitate to take a back seat.

THEO. REHORST.

Campbellsport, Wis., April 2.

Fears Chilled Brood

We have been having fine weather until the last 3 days. White clover has started and promises to be abundant.

I took my bees out of the pit, or trench, March 28. Of the 42 colonies buried I took out 39 in good shape; but the sudden chill that has struck us here in Michigan makes me fear chilled brood.

C. H. BENSON.

Bellevue, Mich., April 2.

Results of Last Season

From 26 colonies last season I took over 1600 pounds of section honey, realizing something over $200. I had only one swarm. Here is the report of one colony I kept on the scales: It was No. 13. First week of May, 3 pounds; 2d week, 3; 3d week, 17; 4th week, 13½; 5th week, 19; 6th week, 15; 7th week, 7; 8th week, 4½; 9th week, 4; 10th week, lost 2 pounds; flow over. There was a loss of from ¼ to ¾ pound per night by evaporation. The total yield was 84 pounds of section honey from this one colony. The best day's work was the last of May, gaining 6¾ pounds.

I commence this spring with 29 colonies.

Bower Mills, Mo. A. E. PATTON.

The Farmer Trade in Honey—Early Spring

This is about the closing of the season for selling honey, and my honey is about all sold. The farmer trade has been good. I have a good many customers among them that buy a 60-pound can of extracted honey at a time. Just the other day I received an order from a prominent farmer not many miles distant, saying that they were going to build, and had decided that honey was cheaper than butter, and ordered two 60-pound cans. The price was 8 cents, and he paid the freight. Now if farmers generally should tumble to the fact that honey at 8 cents is economical, what a change it would make in our business. We would hardly be able to supply the demand. It is the duty of each producer to do his share to educate the public along this line.

I have sold a good share of my honey the past season in the 10-pound self-sealing pails. I like the package, and shall try each year to sell an increasing percentage in this package unless I can dispose of smaller lots. I get 10 cents per pound in the 10-pound pails, and, of course, it pays me to sell as much as I can in that way. I think the paper package described recently would be a good one, and I wish to try it. I don't see why it would not work just as well for a 2-pound or a 5-pound package as for a 1-pound.

I am not at all opposed to comb-honey production, but I think the extracted form is the one in which the greater part of it should be used, and always will be. The scarcity of comb honey will bring the price up to that point where it will pay some to go to the trouble of producing it, and thus the demand will be supplied.

On March 21 our bees were out of winter quarters here and carrying pollen, although there were many heavy patches of ice along the river. This is early for this latitude, and may not be for the best advantage of the bees. They may get too much brood started, and, cold weather coming on again, they would be liable to suffer. However, indications are that spring has come to stay. We hope so.

HARRY LATHROP.

Bridgeport, Wis., March 23.

Wintered Well in Small Hives

I have had the bees out of the cellar 2 days. They have had a fine airing, and seem to be all right. I don't know that any have died. We have taken them out about 3 weeks earlier than usual for us, while the weather was cool, so as to prevent the crazy first flight and mixing up, and have avoided it. I don't think they have mixed worse than if they had wintered on the summer stands; and they are only 4 days later in getting their first flight than the few I had packed in leaves and hay outside. All seem to be strong. I shall know more about them in a few days. Our cellar arrangement has many advantages in this climate, the principal one being that of saving the labor or trouble of heavy hives or packing. A small man, weighing about 125 pounds, carried out 64 hives in about 2 hours; and the evening before carried out 40 in about the same time. Smaller hives have some redeeming qualities besides requiring less lumber to make them.

T. F. BINGHAM.

Farwell, Mich., March 25.

Requeening a Laying-Worker Colony

I have read C. P. Dadant's article on page 235, as given before the Illinois convention, on drone-laying workers, and how to introduce a queen to such a colony. By this method I have never succeeded in introducing a queen to such a colony, but by the following method I have never failed:

Of course, I have never used the comb-honey stopper. My method is to use a queen a year or more old. I first select the queen to be used, put her into a cage without any feed and keep her there for 30 or 40 minutes. Then I take her to the laying-worker colony and gently lift out a comb with no honey, if possible, or little of it, and also with few bees on it. I allow her to crawl from the cage onto the comb where there is no honey or bees. She at once searches for honey, and will soon run up against some bees that will at once supply her needs, then gently replace the comb and close the hive. Let them alone for 4 days or so. She will be laying at once. I have used this plan for a long time and have never lost a queen. It would not do to use a young queen, nor do I think it pays generally to try to save a laying-worker colony. Better unite them with another colony by putting the one over the other with a couple of newspapers between, making a few holes in the center of the paper with a lead-pencil or some other small article. Any colony you wish to unite that way should be reversed, or the end that was front put back, as they will usually eat down through the paper at the end where they think is their entrance, and consequently they come into contact with the bees of the lower colony at the back, and away from the guards. A laying-worker colony of bees must have a frame of emerging bees given to them in 4 or 5 days after the introduction of a queen.

Bees came through in poor condition generally here, owing to lack of young bees. We should have fed a substitute for pollen last fall, consequently they did not breed up through the winter. All strong colonies are doing well now on mesquite and catclaw.

Calaveras, Tex., March 29. H. PIPER.

American Bee Journal

CONVENTION NOTICE.

Minnesota.—The Minnesota Bee-Keepers' Association will hold its spring meeting on Saturday, April 20, 1907, at the Old State Capitol in St. Paul. The afternoon session will commence at 1 o'clock, and the evening session at 6 o'clock. Free refreshments will be served from 5 to 6 o'clock, by the lady members of the Association. A leading feature of the afternoon session will be a practical demonstration of the modern method of queen-rearing, by Chas. Mondeng; and at the evening session the simplest way to cure foul brood. Papers will also be given on, "Spring Management," by Wm. McEwen; "Production of Comb Honey," by Chas. Blomquist; "Shipping Bees and Honey," by Mr. Gent; "Bee-Keeping in Connection with Farming," by Pres. H. V. Poore; "Bee-Keeping for the Beginner," by W. R. Ansell; and a paper by Mrs. E. E. Merrill. Questions on bee-keeping by any one interested will be fully discussed and answered. Lay everything aside and attend this meeting; you will never regret it. We want every one to come, whether a member or not. Brother and sister bee-keepers are all cordially invited. The membership dues are $1.00 a year, including membership in the National Bee-Keepers' Association.

CHAS. MONDENG, Sec.

Minneapolis, Minn.

Wanted A man to work 250 colonies of bees on shares, or to work by the month for wages. State age, experience, and wages expected, in first letter.

14A3t W. E. FORBES, Plainwell, Mich.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

9Atf Please mention the Bee Journal.

Best No. 1 Sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.

6A14t Please mention the Bee Journal.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc, as we can save you time and freight. Beeswax Wanted for Cash.

H. M. HUNT & SON,
REDFORD, Wayne Co., Mich.

NORTHERN KING QUEENS

One Untested, 60 cents; 2 for $1. Tested, $1 each. Breeders. $5 each. Mailed June 1st. Orders booked now. Address, B. F. SCHMIDT,
R.F.D. No. 1, North Buena Vista, Iowa.

14A2t Please mention the Bee Journal.

BEE-SUPPLIES

Hives, Sections, Comb Foundation, Smokers, etc. Best of goods, reasonable prices, and a "square deal." Send for free catalog.

ARTHUR RATTRAY, Almont, Mich.

12A13t Please mention the Bee Journal.

26 EGGS from my Choice Strain White Wyandottes, $1.00

J. F. Michael, Rt 1, Winchester, Ind.

14A4t Please mention the Bee Journal.

ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6 50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen afer June 1, $2.00. GEO. W. BARNES.

15A26t Box 340. Norwalk, Ohio.

Our Discounts on

BEE-SUPPLIES

are still in effect. We furnish EVERYTHING needed in practical Bee-Culture, at lowest prices. We make the

Dovetailed, Langstroth, and Alternating Hives.

The most practical, up-to-date hives are the

MASSIE HIVES

We make them. Have you seen them?

Have you received our new 1907 Catalog? It is surely the easiest Catalog to order from that you ever saw. It is so easy that you cannot make a mistake in your orders—a child can order from it as well as an adult. Write for it to-day; it is free for the asking. It is something new and entirely different from any you have ever seen.

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Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in April:

One Tested Queen.....$1.05
" Select Tested Queen 2.20
" Breeder Queen 3.30
" Tested Caucasian... 2.00

Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

J. L. STRONG

15Atf 204 E. Logan St., CLARINDA, IOWA.

Mention Bee Journal when writing.

How to Make Money Easy

Restock your apiaries with Atchley Queens; they do the rest. We breed all of the leading races in their purity. Untested, $1 each; $9 per doz.; $60 per 100. Tested, $1.50 to $2.50 each; Breeders, $3 to $5 each. 1, 2, and 3 frame Nuclei, and bees by the car-load, our specialty. Get our prices before you buy. We manufacture standard bee-supplies cheap. Catalog free. Will exchange queen-bees or bee-supplies for honey. Beeswax wanted at all times. The Bee & Honey Co.

WILL ATCHLEY, Mgr.

11Atf Box 218, Beeville, Bee Co., Texas.

Mention Bee Journal when writing.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.

3Atf JAMES ISLAND, S. C.

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The book contains 344 pages, bound in handsome cloth, with gold letters and bees and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself.

The first few pages tell how Dr. Miller got into bee keeping. 21 years ago he wrote a small book, called "A Year Among the Bees." But "Forty Years" shows in minutest detail how he does things with bees and gets large crops of honey.

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It is sent postpaid for $1.00, or with the Weekly American Bee Journal for one year, both for $1.80.

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I am booking orders now for April, May and June delivery, for **Carniolans, Italians,** and **Goldens**—equal to the best, regardless of price. PRICES:

Tested Queens	....$1.00 each;	$10.00 per doz.	
Warranted	" .... .75 "	7.00	"
Untested	" .... .50 "	5.50	"

6Atf **GRANT ANDERSON, Sabinal, Texas.**

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, $1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

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Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.

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Carniolans! Italians!

FOR SALE

No disease. 2-comb Nucleus, with Queen, $3, f.o.b. express office here.

A. L. AMOS, Comstock, Nebr.

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We offer for early spring delivery (by mail) Choice Italian Breeding Queens at $2.50 each.

Also, 3-frame Nuclei of Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped about May 10, by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

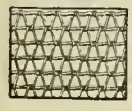
SAVE YOUR QUEENLESS COLONIES

Introduce a vigorous Tested Queen; we can furnish them by return mail, from our fine strain of 3-band Italians; Queens reared last fall, and wintered in 4-frame nuclei. None better.

Choice Tested Queens, by return mail, $1 each. Untested Queens ready to mail March 15, 75c; $8 per doz. No disease, and satisfaction guaranteed

J. W. K. SHAW & CO.

12A4t Loreauville, Iberia Co., Louisiana.



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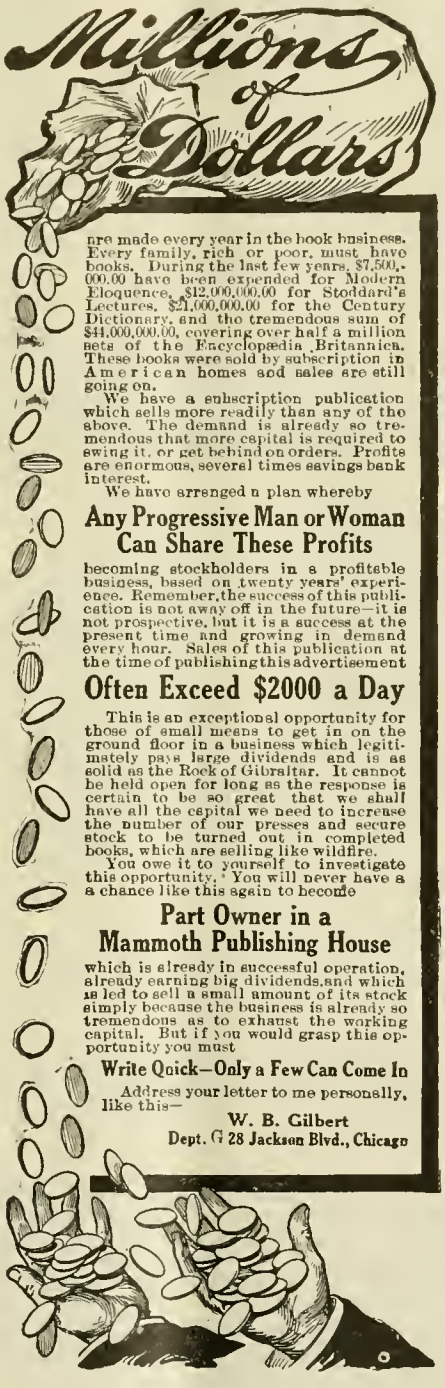
COILED SPRING FENCE CO.,
Box 89 Winchester, Indiana.



are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

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Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
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We will Buy and Sell HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken
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Queens By uniting swarms from 1000 colonies Supplies

I sell queens at—1 queen, 25c; doz., $3. Also following supplies at ½ Root's prices: 1000 P & I. fences; 1000 plain section-holders; 1000 4¼x4¼ plain sections; Daisy foundation fastener; 10-inch foundation mill; 200 10-frame wood-zincs; 2 doz. Porter escapes; 500 Hoffman frames. **R. M. SPENCER,**

4A16t **Nordhoff, Cal.**

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Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c. or $8 a doz.; Tested, $1. or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

J. W. TAYLOR & SON
13A10t BEEVILLE, Bee Co., TEXAS.

Mention Bee Journal when writing.

70 Colonies of Bees For Sale Cheap

In large quantities. $3.00 per colony, and $3 50 in small lots. The bees are in 10-frame Langstroth hives, and in excellent condition.

13A4t **G. PROCHNOW, Mayville, Wis.**

Standard-Bred Queens

Reared from Imported and Home-Bred Caucasian, Carniolan, Hall's Superior Goldens, and Leather-Colored Italian Breeders. Their bees are honey-getters. Untested Queens, $1; 6, $5; 12, $9. Select untested, $1.25; 6, $6; 12, $10. Tested, $1.50; select, $2 50; best, $5. List free. **T. S. HALL.**

11D8t JASPER, Pickens Co., GA.

Moore's Long-Tongue and Golden —QUEENS—

Fine Select Untested Queens, $1; 6, $5; 12, $9. Tested, $1.50; 6, $8. Best Breeders, $3 50. Safe arrival guaranteed. **W. H. RAILS, Orange, Cal.**

9D18t Please mention the Bee Journal.

FOR SALE

50 colonies Italian **BEES** in 8-fr. L. hives at $3 50 each. Also a number of Supers, ½-frames, etc. Combs built on fdn., and wired.

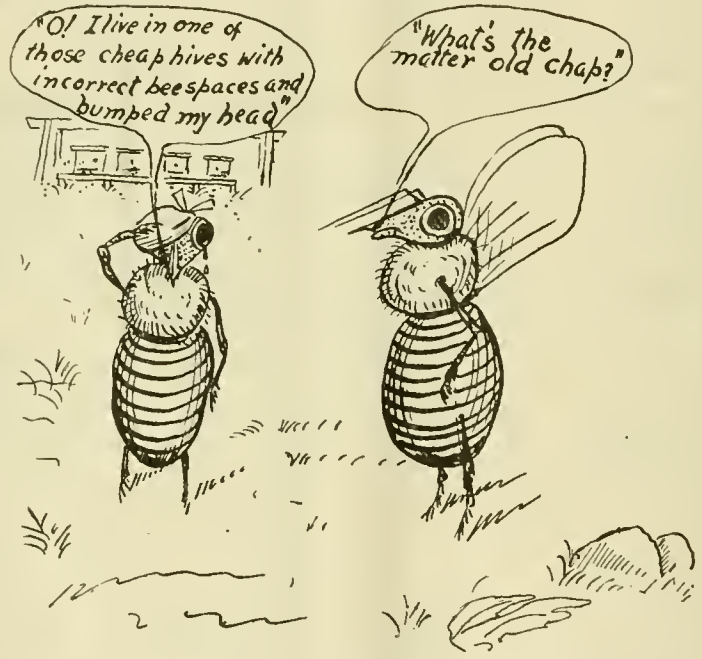
14A2t **GUSTAVE GROSS, Lake Mills, Wis.**

American Bee Journal

Science in Hive-Making

You will find the bee-spaces in Lewis hives absolutely accurate.
This means something.
Some bee-keepers think a bee-hive is a bee-hive, and that's the end of it.
Thus they are misled by cheap prices, and the dealer making the lowest price gets the order.
But after all, more than all the honey that they think they have saved, the bees have lost for them in one season.
Because the bees have spent their time building over the wrongly constructed hive.
Men can make hives better than bees.
Start right with Lewis hives.
Thirty years at the business have made them perfect.
There is no "Just as good."

G. B. Lewis Co., Watertown, Wis.— Charlotte, N. C.
Gentlemen:—The goods have been received, and I am greatly pleased with them. The hives are a model of perfection, both as to material and workmanship. It is a pleasure to have material go together as yours do. I bought hives from you 16 or 18 years ago, which were very satisfactory, but I notice a marked improvement as you now make them. Very truly yours, E. W. Lyles.



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Gentlemen:—About 2 months ago I bought 25 of your 8 frame Dovetailed Hives with Colorado Covers; these I put together without losing a single piece. I find these hives to be better than any other I have ever used. Although I have a gas engine and good tools, I can buy hives cheaper and more accurately made.
Yours truly, E. K. Meredith

Accidents Do Not Happen in Lewis Hives

G. B. LEWIS CO., The Original Beeware People "Not In any Trust." Watertown, Wis.

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Grand Junction Fruit Growers' Association, Grand Junction.
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Louis Hanssen's Sons, Davenport.
W. J. McCarty, Emmetsburg.
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MASSACHUSETTS—Alvin A. Vinal, Marshfield Hills.
MINNESOTA—Wisconsin Lumber Co., Minneapolis, 432 Lumber Exchange.
MISSOURI—E. T. Abbott, St. Joseph.
OHIO—Norris & Anspach, Kenton.
OREGON—The Chas. H. Lilly Co., Portland.
PENNSYLVANIA—Cleaver & Greene, Troy.
TEXAS—Southwestern Bee Co., San Antonio, 438 W. Houston St.
UTAH—Fred Foulger & Sons. Ogden.
WASHINGTON—The Chas.H.Lilly Company, Seattle.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The
American Bee-Keeper
for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]
Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will Satisfaction Guaranteed.
SAVE MONEY BUYING FROM ME. Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, April 4.—Market is quite bare of best grades of comb honey. When sales are made it is on a basis of 15@17c, with very little outlet for the off-grades. Extracted, 7@8c; off grades, 6@6½c. Beeswax in good demand at 30@32c. R. A. BURNETT & Co.

PHILADELPHIA, Mar. 11.—The comb honey market has been quite active in the last two weeks, and the continual cold weather has kept things moving. Many cheap lots have been sent in from the producers, which have had a tendency to bear on the market and weaken the prices somewhat. Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted honey, 7@8c; light amber, 6@7c. Beeswax very firm, 32c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15.—The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.
HILDRETH & SEGELKEN.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Mar. 11—There is very little demand for extracted honey at this writing, which is only natural, owing to the unsettled weather at this time of the year. However, we are looking forward with interest to a revival of trade, as soon as the warm spring days are here. We quote amber extracted honey in barrels at 6¼@7½c, the price depending upon the quantity purchased. Fancy table honey in crates of two 60-lb. cans each, at 8@9c. There is little demand for comb honey owing to the lateness of the season. Choice yellow beeswax, 32@35c, delivered here.
THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 25.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mar. 30—The demand for comb honey is light, as also are the receipts. The market is about bare of extracted. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 28c.
C. C. CLEMONS & Co.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2 selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax, 32c, delivered here. C. H. W. WEBER.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY
Catalog for either, with instructions to beginners—Free.

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We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

THE FRED. W. MUTH CO.,

51 WALNUT ST., CINCINNATI, OHIO.

BEESWAX

We are always in the market to buy Beeswax, and pay the highest market prices. We want Beeswax from the bee-keepers direct.

DADANT'S FOUNDATION

IT EXCELS

Wherever you are you can get our goods. Write us and we will either make you prices or will tell you where you can get our Foundation nearer to you. We have Agents everywhere.

BEE-SUPPLIES

We handle every kind of Bee-Keepers' Supplies, and only the **very best.** Write us before selling your Beeswax or buying your season's Supplies. **Send for our Catalog.**

DADANT & SONS, Hamilton, Ill.

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory..

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago, there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville.
KANSAS.—S. C. Walker & Son, Smith Center.
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MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
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47th Year APRIL 18, 1907 Number 16

AMERICAN BEE JOURNAL

Apiary of M. Marenco, of Algeria, Africa.

Apiary of Mr J. W. H. Kelting, of Holland, Europe.

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WON'T YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
334 Dearborn Stree CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Bee-Hives, Sections

WHY BUY OF US?

Remus, Mich., Feb. 25, 1907.
A. G. Woodman, Grand Rapids, Mich.
Dear Sir:—I use **Lewis Sections** exclusively; there are none better—the only perfect "V"-cut section that has come to my notice. They fold without moistening. E. D. TOWNSEND.

Remus, Mich, Feb. 18, 1907.
The **Lewis Hive-Bodies** are far superior, both in material and workmanship, to any I ever bought.
As ever yours, E. D. TOWNSEND.

Beeswax Wanted. Advanced Bee-Veil, cord arrangement. Silk face, 50 cents, postpaid.

A. G. WOODMAN CO. Grand Rapids, Mich.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing

Get Ready for the Rush

Queens for May and June Delivery

Untested, 2 for $1; Warranted Untested, 3 for $2; Tested, 4 for $3.
2-frame Nucleus with Tested Queen for June delivery, $3, f.o.b. Milo.
Light or dark Italians at choice. No disease. Safe arrival and absolute satisfaction guaranteed. I will send 1 ounce of Catnip Seed free to each of the first 25 ordering Queens to the amount of $2 00 or over.

Route 1. Box 19. **CHAS. M. DARROW, Milo, Mo.**
☞ Reference—First National Bank, Nevada, Mo. 13A4t

"In every country the successful advertiser is the continuous advertiser."

American Bee Journal

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

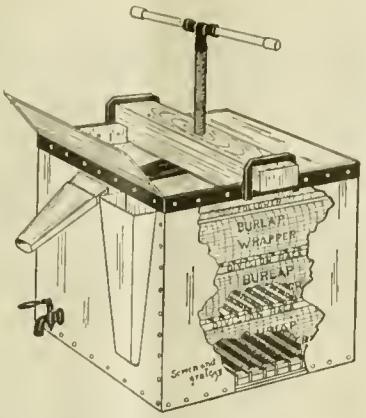
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Big Profits in Capons

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Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

C. P. Pilling & Son Co., Arch St., Philadelphia, Pa.
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BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
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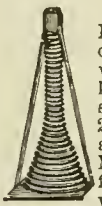

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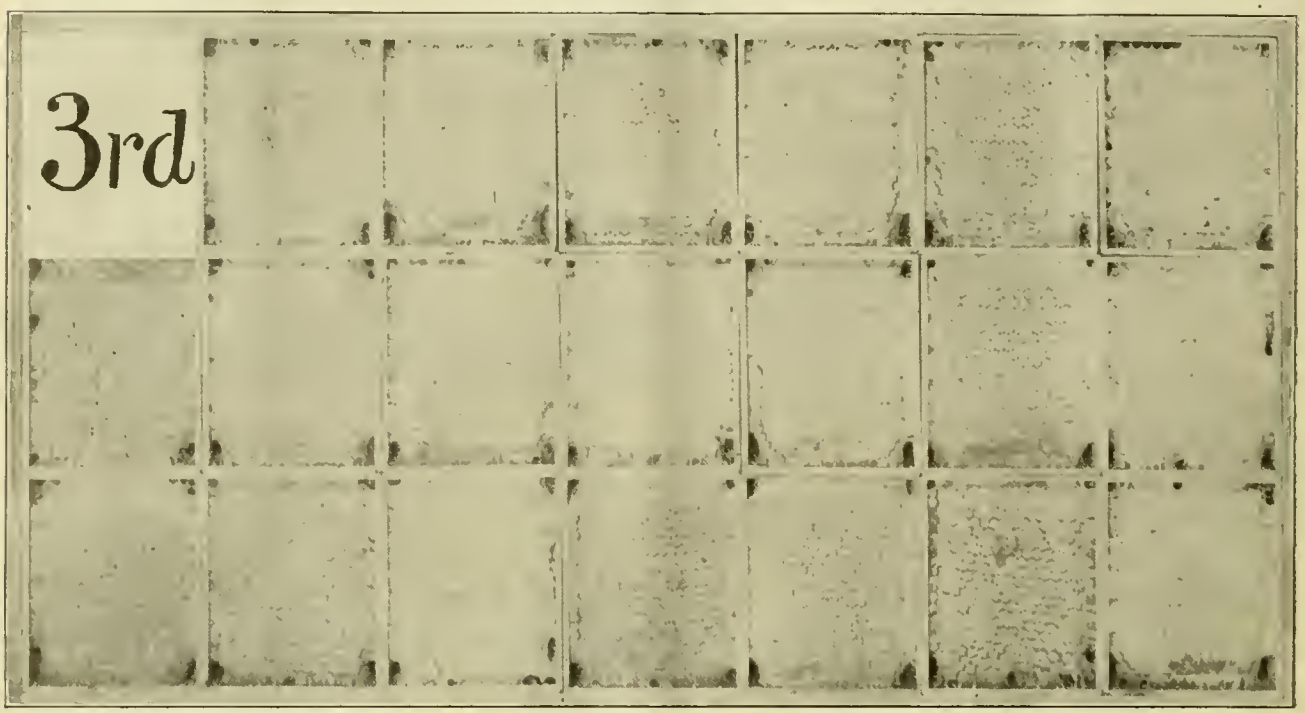
American Bee Journal

HONEY FROM THE DANZENBAKER HIVE

THE FANCY COMB HONEY HIVE



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WEEKLY

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL 18, 1907 | Vol. XLVII—No. 16

Editorial Notes and Comments

Fertilizing-Hives for Queen-Rearing

Probably there is very little dissent in any quarter from the belief that to get the best queens the queen-cells should be started by a strong force of bees, and continued under such care at least until the cells are sealed. This can be the more readily afforded, as up to the time the first young queen emerges a number of cells can be cared for by the same lot of bees. But after a young queen emerges from her cell, and from that time till she begins to lay, she does not cheerfully brook the presence of anything in the shape of a rival; and, moreover, there does not seem the same need of a strong force of bees as during the earlier period of her development, so fertilizing-hives much smaller than the ordinary hive have been used, or else a full-sized hive without the full complement of frames.

While some are confident that so-called baby nuclei, with no more combs-urface than that of a one-pound section, will produce as good results as anything larger, others are skeptical. Even among the ranks of those who were at first enthusiastic as to baby nuclei, there are those who seem to have a leaning toward something larger; one of them, Mr. E. R. Root, now advocating something by no means so "baby" as it might be. Instead of a single comb the size of a pound section, he now advocates two combs, each of them one-third the size of a Langstroth frame. This is getting back very nearly to the small fertilizing-hives used by Adam Grimm and others more than 40 years ago. Mr. Root has virtually a larger mass of bees by having two of these nuclei side by side in the same hive, thus giving the advantage of mutual heat.

While some say success can not be attained with a very small quantity of bees, it is hard o dispute the word of honest men who say they *have* succeeded. "Locality" is that pervading something which explains a great many discrepancies; why may it not account for different views in the present case? In other words, may it not be that in the warmer regions, as in the South, a smaller number of bees are needed to keep up the proper heat? Or is there some other way to account for the differences in results?

A Cheap Weed-Killer

Salt is sometimes used to kill the grass and weeds in front of hives, but in some places it has the objection that it attracts cattle and horses. Here is something not open to the same objection, and, at a cent a gallon, cheaper, as given by A. H. in the British Bee Journal:

The cheapest I know of is: Two ounces of carbolic acid (98 percent) to 1½ gallons of water, preferably hot water. This is also an excellent vermin-killer, and the cost for 120 gallons 5s., or ½d. per gallon. This will destroy even thistles and nettles, and the seeds, too.

Ventilation of the Hive

Prof. Cook says this in Gleanings in Bee Culture:

The bees ventilate so effectively, as they fan the hive-entrance, that it is found entirely unnecessary to arrange for any further ventilation. It is, without doubt, best to have only the one opening to the hive. In the bee-tree or rock cavity the bees have but this one opening, and yet from their great activity they must have great drafts of pure air, and so they have developed their ventilating habit, which is very perfect. Without doubt we serve them best when we leave the matter of ventilation entirely with the bees, only arranging to give them an ample opening.

The novice, upon reading the paragraph, will feel that he need give no care to the matter of ventilation, only so that the bees have an ample opening for an entrance, but he is likely to feel a little uncertain as to what is meant by an ample opening. If he has been accustomed to box-hives with 2 or 3 notches in front, making the equivalent of a square inch and a half or less as the entrance, his idea of an ample opening may be rather unsatisfactory to the bees.

In actual practise, the opening during hot weather varies from the size mentioned all the way up to 2 inches deep the entire width of the hive, while some raise the hive on blocks so as to make an opening on all 4 sides. But not all are agreed that only one opening is best. It is argued by some that it saves labor for the bees if there is an opening at top as well as bottom. Certain it is that in that case there will be a change of air in the hive without effort on the part of the bees whenever it is warmer in the hive than out—just so certain as that there will be a draft up a chimney whenever there is a fire at the lower end.

Will not that automatic change of air be a saving of labor for the bees, or does the instinct for making the air go in and out of the same hole hold them in so strong a grip that it will only make extra labor for them to keep the air from going through the second hole?

It might also be urged against an upper opening that in some localities the nights are so cool that ventilation is a damage, and the colder the night the stronger the current of air through the hive, and against this current the bees are helpless.

An Industrious Bee

The correctness of the general belief as to the industry of the bee having been called in question, Allen Latham comes to its defense in the American Bee-Keeper, and gives the following remarkable instance:

There were thrown out from a hive late one afternoon and early evening a hundred or more dead and dying bodies of some stranger bees. They lay in front of the hive, scattered over a space of 2 or 3 square feet, some having crawled before dying not less than 2 feet from the hive. The following morning, while standing by the hive, I saw a bee tugging at a dead worker on the ground. She pulled this way and that, and finally, by a great effort, mounted with her burden and disappeared in

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the distant air. I naturally thought that she had just brought the dead bee from the hive, but in less than a minute back she came and hovered about the ground as if in search of something. Then alighting by another dead body she grasped and pulled at that, and flew away with it. Again and again I saw her repeat this act, never once entering the hive; never once seeking the society of her living sisters, but plodding away by herself, clearing the ground in front of the hive of the dead bodies. Later on another bee joined in the task, and a few hours later, when I took note of the progress of the work, I found the ground completely cleared of the dead bees that had been thrown there the evening before.

The task was a self-imposed task. An amount of work was done which relatively would be beyond the possibilities of the strongest human being. It would only be fair to say that to do a proportionate amount of work a man would need to carry 50 bodies of his fellow men to the top of a high hill in a space of 3 hours.

That a bee should drag out of the hive the dead body of one of its comrades, even should it continue to struggle with it after some yards from the hive, would seem nothing very strange; but a bee that would return again and again after the dead bodies lying entirely outside of the hive, with never a word of cheer from its sisters, certainly can not be called lazy.

Getting New Subscribers for the American Bee Journal is something every reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

Miscellaneous News-Items

Hon. R. L. Taylor, of Lapeer, is now the Michigan inspector of apiaries, succeeding Mr. Hutchinson, who felt that he could no longer continue the work owing to other duties that press upon him. Mr. Taylor has had large experience with foul brood among bees, and is otherwise in every way specially fitted for the work of bee-disease inspector. Michigan bee-keepers are to be congratulated on the efficiency of their inspectors.

Mr. E. K. Meredith, of Batavia, Ill., died with hemorrhage of the brain March 12, 1907. He had been sick for 2 weeks with inflammatory rheumatism, but apparently was improving. Mr. Meredith was an active member of the Chicago-Northwestern Bee-Keepers' Association, and attended the last meeting with his wife and daughter. His many friends will join with the American Bee Journal in extending sincerest sympathy to his family in their bereavement. As Mrs. Meredith also understands bee-keeping, doubtless she will continue in the business.

Dr. E. F. Phillips is now "in charge" of "Apicultural Investigations" in the Entomology Bureau of the Department of Agriculture at Washington, D. C. We learn this from a Government pamphlet on the "Organization of Department of Agriculture, 1907," which details the work of the Department and gives the names of those in charge, etc. The particular paragraph referring to the work in the interest of bee-culture reads thus:

The importance of the apiarian interests of America are recognized by the establishment of an office for special investigation in this field. Inquiry is under way to determine what crops may be profitably employed to fill the gaps in the honey yield, or to create artificial pasturage for apiaries, and efforts are being made also to introduce new honey-producing plants from abroad. The different races of bees are being tested to determine their relative availability for this country, and experiments are being conducted in the crossing of different varieties looking to the production of a superior honey-producing strain. The diseases of bees are also receiving thorough investigation.

Dr. Phillips has already proven himself the right man for the place which he occupies. The American Bee Journal will be glad to cooperate with him in his efforts in behalf of the progress of beedom.

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Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Articles

No. 3—Feeding and Feeders —Bottom-Feeders

BY C. P. DADANT

The next style of feeders that we will consider is the bottom-feeder. Feeding under the bottom, on the bottom, or in the bottom, is practised considerably. Feeding on the bottom, without a feeder, has been practised in two ways, by raising the hive in front so that the feed can not escape through the entrance. It may be done with granulated honey poured between the frames at the back, or if the hive is absolutely tight at the bottom, by pouring liquid food so that it will lie at the back end of the hive. In such cases, the hive must be entirely water-tight and nailed to the bottom-board. It is a very expeditious way. The main objection is that the hive being raised so as to slant backward, the rain may beat in and mix with the feed. This was practised more with the old-style portico hive than with any other, owing to the shelter furnished to the alighting-board by the portico ceiling. Urgent requirements may be filled in this way with almost no preparation. As to the feeding of granulated honey in this manner, it is objectionable when the intention is to stimulate breeding without necessitating the bees' visit to water supplies, for granulated honey seems to make an increased supply of water desirable.

Bottom-feeders are made to be attached under the bottom, with a connection through a hole with the brood apartment, or may be a part of the bottom-board with an extension on the side at the back so as to be refilled without opening the hive, as in the Alexander feeder.

The only fault of these feeders is in placing the food below the brood-nest, and sometimes remote from it, as weak colonies sometimes neglect to visit the feeder if the weather is unfavorable. I have often found food untouched in a bottom-feeder, when the colony evidently required help. Yet, in many ways those bottom-feeders are com

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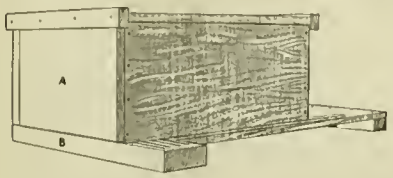
mendable, especially as they do not cause the escape of heat from the hive, since it is not necessary to open the top in order to give the bees an additional supply.

Of course, the best feeders are made in narrow sections and very shallow, so that the bees may not drown in the feed. These feeders, as well as others which will be mentioned farther on, must be made so that they will not ab-



ALEXANDER FEEDER.

sorb or soak the food. They are commonly made of pine, which is coated with paraffin. In some parts of Europe propolis is gathered, melted and used for this express purpose. A bee-keeper who desires to make his own feeders, and wishes to coat them with some preparation, may be able to make them honey-proof by using a preparation of beeswax and tallow—about half and half—which is poured in the feeder while hot, and poured out again, leaving a slight coat on the wood.

Pure beeswax might be used, but aside from the fact that pure beeswax is more expensive, it is noticeable that it does not soak into the pores of the wood as readily as a preparation containing tallow or even lard. This preparation, melting at a lower temperature than pure beeswax, is also less apt to crack or peel off when the weather is cold. It may be used for a number of requirements. Mixed with a small quantity of wood ashes and rosin it will make a liquid cement which is used to stop large cracks in wood, whether feeders or other implements; even such things as water-barrels that are damaged may be made whole by using it. But in any case, remember that the wood must be dry before any such preparation is applied, for the least amount of moisture would prevent the soaking of the wax in the pores of the wood. Water is used to prevent wax from sticking to objects that are dipped in it while hot.

You must also be careful to keep the cake of tallow-wax thus prepared separate from your beeswax, for there would be a row if you should happen to send it by mistake to a comb foundation manufacturer. We keep a small iron kettle with some of this tallow-wax already mixed in it all the time, so that all we need to do is to warm it up for use. When it is melting keep a close eye on it, for it will run over and give you trouble if allowed to get too hot.

But I notice that I have gotten clear away from the description of bottom-feeders. There is still another kind which has been highly commended, but of which I do not approve. It is the entrance-feeder, made in the shape either of a jar enclosed within a box—the Boardman feeder—or of a trough, opening into the entrance and closing this entrance. The entrance-feeder is suitable only if used on a strong colony, otherwise there is a great risk of strange bees helping themselves to the food, or, to say the least, of being attracted there and induced to rob the weak colony which it is intended to help. The feeder, which is placed at the rear of the bottom, has at least the advantage over this, that the robber-bee, if attracted by the smell, is induced to hunt about the rear of the hive, around the crevices near the feeder, and can rarely go in at the entrance and cross the length of the bottom-board without having to take up the gauntlet with a number of the inhabitants of the hive.

Front feeding, therefore, unless carried on with the greatest circumspection is not desirable. If the entrance be closed with the feeder in position, it is necessary to look after it and release the bees in warm weather before they become worried. Yet, one small advantage of the entrance-feeder which has perhaps served to make it popular with some apiarists, is that it is located at the spot most often traveled over by the active adult bees, and that it will therefore not be so readily neglected as a rear feeder.

Hamilton, Ill.

Successful Wintering of Bees

BY ALLEN LATHAM

It is possible that the sentence which Mr. Byer, on page 227, quotes from my writings may need no further defence, inasmuch as Mr. Byer himself offers in his last paragraph so strong a support for the statement. I write now more to impress upon the readers of the American Bee Journal the truth of what Mr. Byer has to say, and to urge upon them the desirability of wintering our bees as well as we should hope to winter our cows and other domestic stock.

It so happens that all farmers do not winter their cows without loss. There are still some who house their animals poorly, either with too slight a protection or else with too little ventilation and cleanliness, and on top of such treatment economize (?) by feeding them upon meadow-hay and water. That such men bury two or three scrawny beasts the next spring is no surprise to their thriftier neighbors.

Suppose, for instance, that a farmer persisted in keeping every animal that came his way, whether healthy or weak, young or old. Suppose he did not practise what most do, namely, to get rid of undesirable stock, make into beef those that are not strong, or else, if conscientious, sell them to those who will turn them into beef. If we suppose these things then we know that it would be inevitable that every winter would see a loss of from 10 to 25 percent of all such domestic animals. The fact is that domestic animals are wintered successfully only because most of us strive to keep our stock uniformly vigorous. But such is not the case with our bees, for, unless I am much mistaken, the majority of bee-keepers think more of the number of colonies they possess rather than of the quality. It is not, therefore, strange that their spring count falls so much below their fall count?

Leaving out the first year of my bee-keeping, a year in which winter cost me 100 percent of my bees, as my only solitary colony was lost, I think that I can say that my spring count has not averaged more than 5 percent less than my fall count. Of this falling off, moreover, almost none should be laid to winter directly, as much of it came about from loss of queens. In fact, I can remember only one colony the loss of which should be laid wholly to winter, and I allow that one only because I never could find any other cause for the loss.

One winter I lost more than 60 percent of my apiary, and might lay the loss to winter; but it so happened that the fall before the hives were very light in stores, and I followed some directions about feeding by laying a cake of candy above the frames. Such a sight as there was the following spring, I never wish to see the like again! These cakes of candy were made of honey and syrup and were not grained. *Never feed with cakes of candy over the frames unless those cakes are fine grained like the inside of a chocolate cream.* Never put honey in with the sugar of which these cakes are to be made, for the honey will prevent the graining. Cook the syrup to a temperature of about 233 Fahr., and set aside where it will cool. When nearly cool, stir it slowly till it grains. Just before it gets too stiff turn it into dishes to harden. A temperature of over 233 will make the cakes too hard, while under 231 the cakes will be rather soft. The cakes which I made in that disastrous winter ran down over the combs and daubed the poor bees, resulting in the stickiest, daubiest mess that ever I saw.

So with all the colonies which I ever lost in winter, I find that in every case (save one) I did something wrong. By correcting these errors I now no longer have any fears of winter, as far as my bees are concerned. That one exception was a colony which was abundantly strong in fall and had lots of honey. In the spring the bees were dead with honey not an inch away. The hive was rather moist, but aside from that I could find nothing wrong. Twenty-nine other colonies in the yard wintered all right.

The past winter here was rather severe, called very severe by old natives. I am inclined to think that my bees would have come through in poor condition had it not been for a flight-day in early January. I count my bees safe if January furnishes a flight, and I can remember but one January during the last 23 years which has not furnished a flight for the bees. The winter of 1903-4 furnished no flight from the middle of November till late in March. There was, according to reports, a loss of 75 percent of bees in the New England States. I lost 2 colonies out of 38, and each of these died from an entirely different cause, the entrance of one getting accidentally hopelessly closed, the other starving by a peculiar mischance. That winter the bees had good stores. This past winter the bees had miserable stores, having failed of filling up with the

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usual white honey. Hence, I conclude that a mid-winter flight this year saved colonies from coming out weak, if not from actual death.

Thus do the years run. There is almost never a winter in which all the bad conditions combine, for if the stores are bad the bees are more than likely to have a good mid-winter flight. If the winter is severe, then the bees are more than likely to have good stores, and so be able to endure the confinement.

Let any one who fails to winter his bees successfully put more brains into his methods of wintering. Let him see to it that all colonies are reasonably strong in bees. Let him see that all colonies have plenty of stores—the better the stores the more likely the bees to survive. Let him house his bees well, protecting them from the winter blasts. If he puts them into the cellar, let the cellar be properly fitted for their welfare. If he leaves them outside, then let each hive be adapted to keep the bees in it dry and warm. If any fail to winter well, let him study the matter, pondering over everything that could possibly have to do with the poor result. If observant, he will more likely than not find the cause of his failure, and can in future avoid it.

I can shake hands with Mr. Byer in all that he says in the last paragraph. Though I recognize the possibility of bad results in wintering even with the best of care, I do not recognize any probability of such results. I consider that in the vast majority of cases bad wintering should be considered a disgrace to the apiarist rather than a misfortune. It is a misfortune, and a sad misfortune, to have our bees die because of a combination of circumstances which lies beyond our control. It is a mighty good bit of fortune that such a combination is so rare that it scarcely falls more than once in a lifetime.

Norwich, Conn.

Getting Ready for the Honey Harvest

BY G. M. DOOLITTLE

In nearly all localities where bees can be kept there are certain plants and trees which give a yield of surplus honey at a certain time of the year, while, aside from this, there is little more honey obtained by the bees than is needed to supply their daily wants and that consumed in brood-rearing. Some localities give a surplus at three stated periods—from white clover, basswood and buckwheat; others at two, white clover and basswood, or white clover and buckwheat, or, perhaps, basswood and buckwheat; while quite a large number give only one, as from white clover, or basswood, or buckwheat, or other fall flowers. Hence it must be apparent to all that if such a honey yield, or yields, should pass by without surplus, none can be obtained during the season.

From this it will be seen that in order to be a successful apiarist, a person must have a knowledge of his locality, and also know how to secure the laborers (bees) in the right time, so that the largest or maximum number can be on hand just at the time that the flowers giving the greatest yield of surplus nectar are in blossom. Failing to do this, no one can expect to attain to the highest and best results in the production of honey, and the object of this article is to set those to thinking who have not thought on this subject, so that they can obtain the best possible results from their bees.

First, then, we have the location. Here, in central New York, our honey crop comes mainly from linden or basswood, which blooms from July 1st to 12th, and lasts from 10 to 25 days, according to the weather. In other localities in this State, white clover is the main crop, coming in bloom June 15th to 20th; and again in others buckwheat, yielding honey in August; and in a few localities there comes a surplus from all three of these sources. But as nearly all have a yield from basswood, I will speak of that as the source from which we obtain our honey harvest. Bear in mind, however, that it devolves on the reader of this to ascertain, by careful watching, just when and what is the source of his surplus honey crop, so as to work accordingly.

When you see by opening one of your hives that the bees are storing honey so that they are lengthening out the cells with new white comb along the top-bars of the frames, with plenty of nectar glistening in any empty cells there may chance to be in and about the brood, then is your time to go out in the fields and in the woods till you find what the bees are at work upon; then watch as the years go by to see if a yield comes from this source nearly every year, and, if so, work for the bees in large numbers at that time of the year. Do not depend upon the "say so" of some old citizen, for he may not know any better what he is talking about than did the old bee-keeper whom I asked nearly 40 years ago, when I first began bee-keeping, where the bees got their first pollen; and he told me that all the pollen which the bees gathered before fruit-trees bloomed came from the willows. I believed this till I came to look for myself, when I found that the very first pollen came from skunk cabbage, the next from elms and soft maples, with a still more bountiful yield from the hard maples a little later on, with very little from the willows at all, and that only from the pussy willow, all the other willows yielding honey but no pollen.

After having determined when we may expect our harvest of honey, the next step is to work for the bees so they may be in just the right time for the harvest. If you have a field of grain to cut, you hire the laborers when the grain is ripe, not before or afterward; yet in keeping bees very many pay no attention to the matter of securing the laborers, so that, as a rule, they are more often produced so as to become consumers rather than producers, and thus we quite often hear persons claiming that bee-keeping does not pay.

The queen is the mother of all the bees there are in a colony, she laying from 3000 to 4000 eggs a day when coaxed to do this, either by a moderate honey-flow being on from the fields, or the bee-keeper so fixing his colonies that the bees feed the queen abundantly just when he wishes the queen to be depositing these 3000 or 4000 eggs in the cells each day in preparation for the maximum amount of bees just in time for the harvest. And yet the queen often lays only from 500 to 1000 eggs daily at the very time she should be doing her very best, just because this moderate flow of honey is not in line with our wants. or else the would-be bee-keeper is paying no attention to this matter of securing laborers in time for the harvest.

After the egg is laid it takes 3 days for it to hatch into a larva. This larva is fed about 6 days, during which time it has grown so as nearly to fill the cell, when it is capped over and remains hid from view for about 12 more days, when it emerges a perfect bee; thus making a period of about 21 days from the laying of the egg to the perfect bee. When the colony is in a normal condition, this bee now works in the hive for 16 days more, doing such work as feeding the larvæ, evaporating nectar to the consistency of honey, building comb, etc., when it is ready to go outside as a field-laborer, and at 45 days from the time it emerges from the cell it dies of old age and another generation takes its place.

From the above it will be seen that the egg must be laid at least 37 days before the time which we have ascertained by watching that our honey harvest is to begin, in order that our bee has the opportunity of laboring in that harvest to the best advantage. Now, if the harvest is basswood, commencing to bloom say July 8, the eggs for the laborers should be laid on or before June 1; and if from white clover then they should be laid on or before May 10, provided we have ascertained that white clover blooms so the bees can work on it to advantage about June 16.

But how shall we coax the queen to lay the eggs just when we want them? There are several ways of doing this, such as spreading the brood, feeding the bees warm syrup every night, etc., but I will speak of the one I find just as good as any, and one which requires the least labor of anything I know of.

About a week before we wish the queen to be at her height of laying, take combs which are filled nearly or quite full of sealed honey to the amount of 20 pounds or more (that is, see that each colony has at least 20 pounds of stores in the hive), and break the sealing of the cells of 2 of these combs, after which one of these is to be set in the hive right up next to the outside combs of brood on either side of the brood-nest, doing this work just at night so that no robbing need be started by attracting other bees than those in the hive where you set the honey. Put the other frames of honey outside of these 2 frames, when the hive is to be closed up as warmly as possible by stopping all cracks, etc. There is nothing that incites brood-rearing like this, as it incites the bees to the greatest activity in removing this running honey from the cells, thus causing them to feed the queen freely

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on prepared food, so that in 2 or 3 days she is laying her maximum amount of eggs; and, after this, brood-rearing is kept right up from the bees feeling so rich in stores that they see no need of retrenching; they thus keeping on uncapping and removing the honey from the combs, while the queen keeps right up depositing eggs in the cells as fast as the honey is removed, which results in doubling the amount of brood there otherwise would have been had the bees been allowed to take their own course.

In this way the best possible result as to honey is secured, provided we have our supers and everything else ready and on hand when the anticipated harvest arrives.

Borodino, N. Y.

By W. A. Pryal, Alden Station, Oakland, Calif.

A Wet Season

The season has been a real wet one; long and continuous rains fell since my last reference to the season. In this vicinity the rainfall has been close upon 30 inches—it will, no doubt, exceed that amount before the end of May. Further north, and in the mountains, the precipitation has been twice as much as here—in a few cases, perhaps, as is often the case, especially in Humboldt Co., the rain-gauge records three times the amount of rain that fell hereabouts.

In the southland the "heavenly dispensation," as a certain news-writer wrote it once upon a time, has been ample, fully as good as any that ever favored that sunny land. But will the honey crop be large? That's the question. The long-continued rain has been the means of retarding breeding, so that it may be that there will not be as full a work-force to garner the nectar as there should be when the main honey-flow comes.

The growing of the plants went on apace, regardless of the rain, so that the flowers will be out almost as early as ever. It is probable, however, that the period of inflorescence will be longer drawn out than it is during a dry, or comparatively dry, year.

As matters now stand, I do not remember seeing a season when there was such a promise of a big flower-crop. Now for the bees to capture the nectar!

Bees on the Islands

On the large islands formed by both the Sacramento and the San Joaquin rivers near their mouths, many large apiaries have been kept for years, and they also yielded a sure crop, even when there was a honey-famine in other portions of the State. The reason that bee-keeping on these islands never became popular, is almost entirely due to the fact that the nectar gathered by the bees yielded a rather dark honey—too dark, generally, to command a satisfactory price. The honey was usually purchased by the large manufacturing bakeries.

The excessive rains of this spring, and the flooding of nearly all of these islands, has ruined most of the apiaries, many of the hives being carried away by the surging waters. These islands are the great garden-spots of northern California—no richer land is to be found in the world. Some of the islands were almost entirely given over to the growing of asparagus—a vegetable that attains its highest perfection in the sandy and peaty soil of these reclaimed islands. The canning of this vegetable was mostly conducted by an Oakland firm, and its output was said to be the largest in the world. I understand the flooding of their fields has practically bankrupted the firm. This is too bad, for many reasons, one being that asparagus bloom is not a bad forage for bees.

In this flooded district there were immense fields of alfalfa which yielded the best honey obtained on the islands. These fields are ruined. It will be a couple of years, I understand, before the land is restored to its original fruitfulness. Thus, where the rains have helped many, others have been practically ruined.

The Sun vs. Moth-Larvae

One hot day toward the end of March I was overhauling a hive in which the bees, for some unknown cause, had "given up the ghost," and I found the combs badly infested with moth-larvæ. I shook some of the "worms" out on the black cover of an adjoining hive. The larvæ soon began to squirm, and in a few minutes died. That gave me an idea; it may not be new, for 'tis hard to find anything new nowadays under the sun. (No joke intended.) Why not let "Old Sol" get in his work on the moth-pest?

I thereupon set several "wormy" combs in the hot sun. The result was magical. Larvæ came hustling out of the comb and soon died under the hot rays. The comb was reversed, and that side finished, too. Look out for too hot a sun for the comb's sake.

I wonder if the moth-eggs can stand the heat, too? I expect to experiment in this direction some time.

The Pepper-Tree—Getting 'em Mixed

The pepper-tree (*Schinus molli*), while a native of Peru and Chile, has been largely planted in California, where it is thoroughly at home. It is one of the most ornamental trees that can be grown. In many respects it resembles a weeping willow, though it is not so funeral-like. It is a good honey-tree. Prof. Cook, in his excellent "Bee-Keeper's Guide," classes it with the honey-secreting trees that bloom in April. 'Tis a fine tree, 'tis true, but he is too previous; it blooms in the fall, usually in September.

But the Professor is not so badly mixed as was the writer of the article on "Eucalyptus," in the "A B C of Bee Culture," page 131, edition of 1905. Two entirely different trees are described under one head; the article begins with the word "Eucalyptus," and ends with "pepper-tree." Talk about Irish bulls!

Mice Fond of Moth-Larvae

In looking over some combs lately that were stored away in the honey-house, I found that mice had gotten to them. The only ones that the little varmints seemed to injure were some that had moth-larvæ in them. Out in the apiary I discovered a hive that became beeless during the winter, and moth-larvæ had commenced to work through the combs. As the hive had a rather large entrance, a mouse made its way into the hive and just cleaned out all the embryo moths. None of the comb, save that where the larvæ were tunneling, was injured by the "foxy" little animal. Here seems to be a new use for the despised mouse. Maybe some one can breed a strain of mice that can be recommended to bee-keepers as moth-exterminators. I will pass the "problem" over to our Hasty Afterthinker.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

☞ You let me know that my time has expired for the American Bee Journal. Now for the life of you, never stop it till I tell you, for I can not bear to lose it. Enclosed you will find money order for same.—Ignatz Koch, of Wisconsin.

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Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister Starting With Bees

DEAR MISS WILSON:—I want to keep a colony or so of bees, but as our place is new—not a tree nor a shrub—how am I to manage when the bees want to swarm?

When is the best time to get a colony? Can you give me the address of a reliable person handling bees?

Any point that would be of particular importance to a novice would be appreciated.

(MISS) GENEVA WELBORN.

Jackson Co., Mo.

You are to be congratulated that you have no large trees to bother you at swarming-time. If, however, you wish a place for swarms to cluster, you might stick a pole in the ground with a bunch of dark rags attached to the point; or, better still, a piece of old honey-comb, as a substitute for the trees and shrubs. But the simplest way would be to clip your queens' wings, and then no alighting-place would be needed.

In the spring or early summer, after bees are flying daily, would be a good time to get your bees.

Look in the advertising columns of the American Bee Journal. You will no doubt find what you want there.

The first thing to do is to get a bee-book and study it, and no bee-keeper can afford to do without the bee-papers. If any special point comes up that is not made clear in the book, it will be a pleasure to answer any questions in this department.

A Man's Idea of a Woman's Bee-Dress

In the Irish Bee Journal D. M. M. quotes from a book by John Keys, 1796:

"Women should not meddle with bees without a headdress, nor then without a man's coat, and I had almost said breeches also."

Poor women; pretty warm work to have to wear a man's coat with the thermometer in the 80's or 90's.

Preserving Oilcloths With Beeswax and Turpentine

Oilcloth looks better and lasts longer if polished with beeswax and turpentine than if washed. To make polish, dissolve an ounce of beeswax in a pint of turpentine. Apply with one piece of flannel and polish with another. To get a good effect quickly be careful always to use clean cloths. Old woolen vests, etc., will answer the purpose, and it is really a saving of time in the end if they are washed each time they are used.—A. R., in Vick's Magazine.

The Sting-Trowel Theory Again

DEAR MISS WILSON:—The following appears in one of our local periodicals:

REAL USE OF THE BEE'S STING.

"The bee's sting is a trowel, not a rapier," said a nature student. "It is an exquisitely delicate little trowel with which the bee finishes off the honey-cell, injects a little preservative inside and seals it up. With its trowel-like sting the bee puts the final touches on the dainty and wonderful work. With the sting it pats and shapes the honey-cell, as a mason pats and shapes a row of brick. Before sealing up the cell it drops a wee bit of poison into the honey. This is formic acid. Without it honey would spoil. Most of us think the bee's sting, with its poison, is a weapon only. It is a weapon secondarily, but primarily it is a magic trowel, a trowel from whose end, as the honey-cells are built up, a wonderful preserving fluid drips."

I would like to inquire if "Nature Student's" bees are a new species, or are they just common Apis, like yours and mine? It is an entirely new idea to me, that a full-fledged—i. e., barbed—bee-sting is a secondary matter. I have been under the impression all these years that when the little busy bee "patted" me with her delicate little trowel it was primary, very.

As for formic acid, the "A B C of Bee-Culture" calls the poison secreted by bees, "Apis mellifica," and the same author says further, "that the bee-sting poison frequently relieves certain forms of rheumatism, paralysis, and perhaps dropsy;" but he neglects to mention that the bees use the poison as a preservative for their honey.

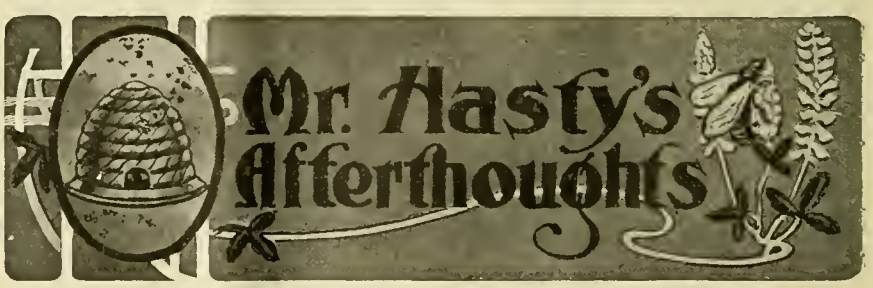
This has been the hardest winter on bees in my experience. I winter them outdoors with chaff cushions, and protected by sheds and evergreen hedges; but I found 5 out of my 21 colonies dead this spring. The remaining 16 are to-day (March 27) bringing in their first pollen from willows, and are just booming with bees and surplus energy.

MRS. BUEL BILLYARD.

Millgrove, N. Y.

Some years ago Rev. W. F. Clarke, a Canadian bee-keeper now dead, published a little book of verse in which he put forth the theory that the sting of the bee was used as a trowel, and that before sealing a cell of honey the bees put into it a droplet of poison from the sting. No proof whatever was given; it was a flight of imagination pure and simple, with no shadow of foundation. With an observation-hive one can see the work of the bee, yet no one has ever seen a bee working wax with its sting, or letting fall from it into a cell of honey the tiniest bit of poison. So you are quite safe to stick to your "primary" view.

Formerly formic acid was believed to be the poison in a bee's sting, but later investigations show it to be something separate. "Apis mellifica" is the scientific name for our bees, not for the poison, although a medicine prepared from bees' stings may be called by that name. Formic acid is found in honey, but it gets into the honey while the honey is in the bee, not after the honey is deposited in the cell.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

ROUND CELL BUILDING—NON-SWARMING AND SWARMING LOCATIONS.

No, Mr. Aikin, I guess I won't climb clear down from that round-cell tree yet. Some other time—maybe—maybe not. Strikes me you have a pretty compression *theory*—that hardly tallies in every point with the facts. Still I'm not ready with any reply. At present I enjoy more seeing you up a tree that I suspect almost any man could be compelled to climb down from—unless he belongs to the sect of never-climb-downs. Your tree is where you say, "The bee is governed in no sense by reason." How would it do to say the dog is governed in no sense by reason? When the dog turns around several times before lying down, it is not probable that he is governed by reason. But when he sees his master take his gun, and he forthwith begins to dance and caper like a wild creature,

he reasons that there is some hunting going to be done—and he likes the job. The dog knows why he does things for the most part; and the things he does not knowing why are comparatively few. But when we pass from the dog to the bee we find the reverse the case. Very many things which superficial view would call wisdom, are simply automatic or habitual; and the bee does not really think or question as to what object is in view. But for all that there is still a remainder of things which bees do just as intelligently as other non-human creatures do. Of course, we know that there are still some folks eager to jaw, jaw, jaw to the end of time in defense of the proposition that no creature but man has a particle of reason. By some odd hocus-pocus they have made this a tenet of their religion. Venture to hope that not many of this tribe of theologians are bee-keepers.

That was a narrow escape you had from getting up the no-trouble-to-control-swarming tree. Your experience in the natural change of a non-swarming location into a swarmy one is valuable to us. Page 188.

Respiration of the Bee.

I wonder a little what Mr. House was at when he said, "Normal respiration of the bee is 3 or 4 times a minute; under abnormal conditions as high as 124." As a bee has no rib bones and no diaphragm, it might be asked how the respiration trick is performed. Say perhaps a *general* contraction of muscles, causing part of the air in the spiracles to go out, followed by general relaxation causing fresh air to come in. The highest rate mentioned would be about 2 per second—same rate at which some clocks tick. My memory dimly confesses to having seen something like successive undulations, not far from that rate of speed, slightly stir the anatomy of highly active bees. At least I'm not going on record as denying that the bee has what amounts to a timed respiration. But I guess most of the brethren either don't know this or else so ignored it that it amounts to about the same. Page 189.

Carniolan Bees Slightly Largest.

Pretty positive evidence that Carniolans are slightly the largest, if perforations .162 of an inch give satisfaction in most other yards, but are returned as too small from yards where Carniolans are kept. Strikes me I would rather have an occasional queen get up (as they have been doing) rather than have the last one kept down at the cost of having all the workers at their work go through "with a squeeze and a grin." So I still incline to the old .168 of an inch zinc. Put the zinc smooth side down, and so get decided advantage at no cost. Page 190.

Texas Elm Honey from the Leaves.

Mr. Smith, of Texas, thinks elm honey comes from the leaves, being in fact "honey-dew." Here's "locality" again with a vim. Do Texas elms have leaves at blooming time, or is that a slip of the writer's memory? Up here elm leaves do not appear till later on. However, the inflorescence of the elm furnishes lots of surface on which an aphis might breed. Page 191.

Rendering Beeswax.

In wholesale way, with Mr. Coggshall's kettle and sack rendering of beeswax, the slumgum contained 35 pounds of wax to the barrel. That's more than we enjoy throwing away. Page 190.

Honey-Dealing Annoyances.

The way Mrs. Amos trims a certain bee-man is somewhat amusing. But "we're all poor critters!" She feels real annoyances on one side. He feels the pinch of severe conditions on the other side—the difficulty of making the days have a hundred hours each. Still I suppose we shouldn't mortgage a hundred of to-morrow's hours unless we are prepared to deliver that many. Page 192.

Electric Heat for Bee-Cellar.

An electric heater for the bee-cellar! Well, well, we are coming on. And I see no reason why electric heating should not be the best possible—in this case where heat is often needed, but hard to apply without doing mischief. Page 191.

Use Best Honey for Infants' Food.

If honey is to be used in an infant's food, let it be done with care, and by a judicious person, until it proves itself all right. And *in heavenly mercy* don't let it be such poor, half-spoiled honey as is sometimes sold. Sadly too many outsiders think honey is honey, and don't discriminate. Still, I guess there's not danger of any such deadly harm to the little fellows as bad milk sometimes brings. Page 193.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 316)

Distance to Breed Pure Queen-Bees.

"How far should a breeder of pure queen-bees be isolated from all other bees?"

Dr. Bohrer—I don't know of my own personal knowledge how close queen-breeding apiaries are situated to each other, but my own idea has been this: As different races of bees are being brought into the United States, these apiaries should be 12 or 15 miles apart. I know this, that bees will go 7 miles. I have timed queens that have left a hive and have been out ¾ of an hour. Now how far they have been I have no knowledge. How far the drones will go I don't know, but I have reason to know that queens and drones will go a greater distance than 12 miles. I have known of two races being bred in the same yard and sent out over the country. Now, whoever these bee-keepers are, they have not been sending out pure queens, and they ought to quit the business. Now, I have no ax to grind; I have no queens for sale and don't intend to have any. I am not in the bee-business to make much money out of it, but for pastime, and I don't want to quit it now. I am not going to give any names, but there are parties here who know something about it. If they are sending out different queens from the same hive, they ought to be notified to quit business, or be exposed. I know of one man that I understand had foul brood in his apiaries, and considerable money was sent in for queens, and he had the honor to notify them that he had foul brood and would not send out a queen. I don't believe that he is the only man that would do this. But these are matters that we want to hunt up. If you have foul brood in your apiary, you need not be scared about this matter, nor ashamed of it, but it is harmful to keep it. It may be your fault, it is a misfortune, but go to work and get rid of it. The man who is sending out different races of bees, and breeding them side by side, is not working for the interest of the bee-keeping of this country. I don't know the names of these parties, and especially those who are sending out four different varieties of bees bred in a small apiary of 24 or 25 colonies, all kept in one yard. We should work together and find out who those parties are, and quit patronizing them until they do better. I don't want queens badly enough to get them from a man who will do business in this way.

Pres. Dadant—Are there members who have any experience in this matter, in regard to distance?

W. H. Laws—I have been wondering who in the world such charges could be brought against. Dr. Bohrer is very earnest in what he says. Since the introduction of the baby nuclei, I have known an honest man who breeds the Carniolan, Caucasian and Italian, and keeps them all in one yard. But he takes 200 or 300 of these baby nuclei and goes out far in the country with them, and these queens are mated to

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those drones. A few days afterwards he brings those drones in, and those bees come from the same yard. He is doing a good business, and a man that buys queens from him is getting fine stock. He has a few bees all kept in the same yard, but the mating ground is in a separate place.

Will Atchley—I have had the same complaints come from a party, that I think he refers to, and I visited the same place and I found what Mr. Laws says is true.

A Member—I want to say that Dr. Bohrer is talking from what he knows, but that party was not from Texas. It has been asked that the National Association should look after the queen-breeders, and know that bee-keepers are getting stock true to name; that the Association appoint a committee to investigate this matter. There are some who are doing everything that is possible to breed true to name; we send to them and their bees are true to name when we get them; they are not satisfactory, and I think many times it has been in getting tested queens that have been hurt in transportation. Would it look reasonable that if you should buy a fresh-milk cow and ship her from home down to Texas, without any care, would you expect her to continue a nice fresh cow when she arrived? Would you expect this of a nice tested queen? Yet it is not the fault of the queen-breeder? I believe that some of us are inclined to criticise queen-breeders that are doing right, and need upholding in what they are doing. We should *know* that a man is shipping from an infected yard; those things ought to be investigated.

Dr. Bohrer—I want to explain in regard to the mater of queens being injured through the mail. I have not found much abuse in that particular. I purchased a queen from a Texas queen-breeder, and she was one of the best that I ever saw.

Most Profitable Race of Bees.

"What is the most profitable race of bees for both comb and extracted honey?"

Mr. Stone—I think the Italian bee is the most profitable.

Mr. France—My observation from the State of Wisconsin says the Italian bee.

Mr. Victor—Yes, I think the Italian bee is the most profitable.

W. H. Laws—I would like to ask Mr. France if it is the improved or the 3-banded Italian he prefers.

Mr. France—I favor the 3-banded Italians for their honey-gathering qualities.

Pres. Dadant—In Europe there are some countries where they criticise the Italian bees. I had the opportunity of investigating bee-culture and the Italian bee. The man who writes a book is very careful of his statements. Now, I took 12 of the leading works of Europe and America, two German, one Swiss, one Italian, one English, one Irish and two French, and I think one or two American. Everyone said that the Italians were more industrious. I believe that this is as good as can be given.

Mr. Stone—I would like to introduce the golden Italian, especially where I have any black blood in my colonies. You get good hybrids when you get the 3-banded bees.

Mr. Anderson—I stand up for the Carniolans, although I have not reared many. I have been using Italians principally until this year. I get more honey from the Carniolans.

Wm. Atchley—For 10 years I preferred the 3-banded improved Italians, but for the last 5 years the Carniolans have proven themselves superior to the Italians in my country.

THIRD DAY—First Session.

After the members had asembled, they were requested to go to the City Hall, where a group photograph was taken. Then at 10 o'clock, a. m., the meeting was called to order by Pres. Dadant. The Committee on Amendments appointed last year was called upon to make a report.

Pres. Dadant—Mr. Holekamp was a member of the committee to divide the membership into districts in the different States.

Mr. Holekamp—I studied about this matter and found that the work which I had in mind for the directors was so great that it will be very difficult to find men who will undertake the work. Therefore, I think it best not to make any recommendations. I withdraw the proposition.

Pres. Dadant—You have heard the report of the committee. Under the conditions I think it will be well to accept this and discharge the committee.

On motion the report was accepted, and the committee discharged.

The Committee on Exhibits then reported as follows:

Report on Exhibits.

We, your Committee on Exhibits, beg to report a very creditable exhibit of apiarian supplies and honey. However, we consider it short in many respects.

The largest exhibitor, Udo Toepperwein, of San Antonio, Tex., shows hives of various kinds, both in the flat and nailed up; honey and wax extractors, bee-smokers, and other appliances generally listed in the catalogs, besides bottled honey and beeswax. A nice feature of Mr. Toepperwein's exhibit was the distribution of delicious candy made of honey.

A. G. Anderson, Secretary of the Emery County Bee-Keepers' Association, of Ferron, Utah, has two jars of sweet clover and alfalfa honey, of light color and good flavor.

T. F. Bingham, of Farwell, Mich., has one of his latest improved bee-smokers.

L. Werner, of Edwardsville, Ill., shows a bottle of Spanish-needle honey. This honey is rather dark in color, and strong flavored, otherwise resembling buckwheat honey.

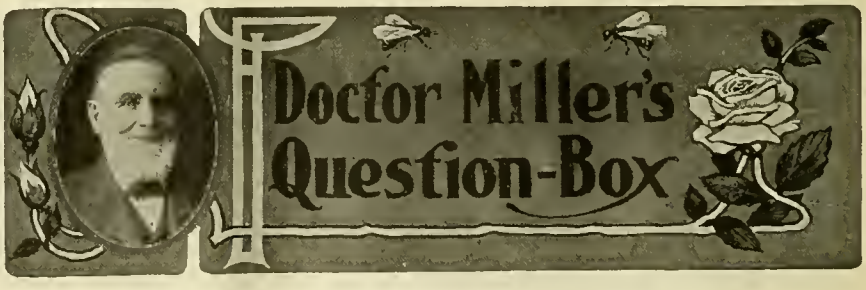
N. E. France, of Platteville, Wis., General Manager of the National Bee-Keepers' Association, has gotten up a neat Guarantee Label or Seal, for members of the Association to be placed on packages of honey for protection. Mr. France also has samples of different kinds of honey from 34 States, labeled according to their source. One reason for the small exhibit here at the convention hall is on account of the exhibits at the Fair.

Exhibits of this kind in connection with bee-keepers' conventions should be encouraged. It draws out much interest, acts as a source of advancement in bee-culture, and adds materially to the interest of the conventions.

Louis H. Scholl,
David H. Coggshall,
A. G. Anderson,
Committee on Exhibits.

On motion the report was approved.

(Continued next week.)



Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Perforated Wood Separators

I have mailed you to-day a few samples of a perforated separator which I am making, and would like your opinion on the merits or demerits of the same. As you see, it is the plain sawed separator perforated in order to secure the advantages of the slat separator at less cost. I buy them at 40 cents per hundred, and can perforate 1800 per day, so you see it has the recommendation of cheapness, at least.

As I use the T-super I can not use slat separators with bee-way sections. Have such separators ever been used?

The greatest trouble in doing work of this kind is to keep from splitting the wood, and I have overcome that, having perforated 800 without splitting one.

Would it be worth while to patent the machine, or could the separator be patented?

Provided there is enough merit in a separator of this kind, I should like to make them and sell them at a more reasonable price than the supply-dealer would. Iowa.

Answer.—You do not say whether you

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have used these separators, but I suspect not, for unless the perforations are narrower you will be pretty sure to have sections with ridgy surfaces. I do not believe you could secure a patent, for the same thing has been in use before. Wood separators are sold for much less than you mention, but I think they are sliced, and not sawed.

I do not quite understand why you say, "As I use the T-super I can not use slat separators with bee-way sections." I do not understand why any separator can not be used in a T-super, nor any section. Of course a fence separator will not work the very best with bee-way sections, but the two will work together just as well in a T-super as anywhere else. I have used in a T-super fences and separators of different kinds, also plain sections and bee-way sections of different sizes, and if you will explain a little more fully what you mean, perhaps I can show you the way out.

Two Queens in a Colony

At one of the bee-exhibitions held at Vienna, a discovery was made which perhaps will change the opinion held on queens living together. Before this it was thought an incontestable fact that every bee-family obeys one queen, and that it was never possible that the mastery could be divided. This opinion can not be maintained after Prof. Gatter von Simmering exhibited a bee-hive whose population was governed by 2 queens, and which seemed to enjoy the innovation. And what is more remarkable, the 2 sovereigns lived together quite peaceably, and without ever getting hostile. There was never a sign of grudge, jealousy, or any attempts to get rid of a disagreeable rival; but, on the contrary, the 2 queens seemed to feel a really reciprocal inclination. They came together from time to time caressing, and separated tranquil and peaceable, followed by their devoted subjects. —Translated by HUGO BARTH, of Washington.

ANSWER.—While in general only one queen is to be found in a hive, it is not at all an uncommon thing, at the time when an old queen is superseded, to find at least for a short time mother and daughter living peaceably together. Indeed, this may be the rule rather than the exception; only hives do not happen to be opened a great deal at the usual time of superseding, which is at or near the close of the harvest. If the case in question was that of mother and daughter, it is only what may be found in the fall in almost any apiary. If the 2 queens were not mother and daughter, then the case is rare. In my own experience I never had but one such case.

Wiring Frames and Fastening Comb Foundation

1. I engaged in bee-keeping 2 years ago, and now have 25 colonies wintering in the cellar. I hope to double this number the coming summer, and have contracted for the 1½-story dovetailed hives for new swarms. I shall work for extracted honey from these hives exclusively, and have thought to use full sheets of comb foundation in both brood-chamber and supers. Not knowing the depth of the brood-frames in the ordinary dovetailed hives, I wish to know if I can procure comb foundation sufficiently wide to fill the frames above mentioned. Also, is it best to wire said frames? If so, how many wires would be necessary?

2. Describe briefly how the wires are put on the frames and fastened.

3. How close to the bottom-bar should the foundation come? and is it necessary to fasten the foundation to the end-bars of the frame? What instrument is best for the purpose?

IOWA.

ANSWERS.—1. Yes, comb foundation of that size is kept regularly in stock, and by ordering in advance you can have foundation cut any special size.

Yes, unless the foundation is heavier than is profitable, it should be supported either by wires or foundation splints. For the deep frames 4 horizontal wires are used; and 2 for shallow frames.

2. You will probably find the end-bars of the frames pierced for wiring when you purchase them. Find out how long a wire will be necessary for each frame, and then figure on having your wire cut a little longer than necessary. Suppose you want to cut the wire 7 feet long. Cut a board half that length, 3½ feet, and wind the wire upon it. Then with wire or string tie around the wires every 6 or 8 inches, to keep it from snarling; and at the same time tie around the board so that the lot of wire will stay upon the board till all used up. Now cut the wires at one end of the board, and you can take hold of each wire at the other end and draw it out as wanted. Now run one end of a wire from the outside through the hole next to a top hole in one end-bar, then straight through the corresponding hole in the other end-bar, then back through the top hole of this last end-bar, then through the top hole of the other end-bar, and fasten the end by giving it a turn or two about a small nail driven partly in, and then drive the nail fully in. You will now see your way clearly to working downward with the other end, and fastening it in the same manner. Make a board that will just fit inside the frame, put cleats on the edges so the frame will be supported with the wires just resting on the board, lay the foundation on the board and the wires on top of it, pushing the foundation into the saw-kerf of the top-bar as you lay down the frame; run the wire-imbedder over the wires with sufficient pressure to imbed them, then lift off the frame and crowd the wedge into the top-bar good and deep.

3. Leave ¼ inch between foundation and bottom-bar. With foundation splints the foundation comes clear down, but as you have not Miller frames, you can not well use them. There is perhaps no better tool for imbedding than the spur wire-imbedder.

T-Supers and Cleaning Sections

I have been very much interested in those discussions in the American Bee Journal about cleaning sections. I have been keeping bees in modern hives 7 years, and have now run my apiary up to nearly 100 colonies, and run mostly for comb honey. I have your "Forty Years Among the Bees." and read and studied it quite carefully in connection with a number of others, and all the bee-papers. I am using the Danzenbaker, Langstroth and Ideal super, and 10-frame hives. I adopted the plain section on account of the style and the close packing for market, and because they take less wood and are simpler and easier to make if I take a notion to make them, and a little cheaper when I buy them. But it is a hard proposition to decide whether I like the Danzenbaker better than the Ideal.

I have also been very much interested in your T-super, and I think I shall try it next summer, to see how I can make it work with my kind of section.

I noticed in one of your discussions, in replying to "Colorado," regarding the prodigious speed in which you get your sections scraped and cleaned, you seemed to place great stress on the T-super for a short cut. I fail to see the point. If I understand your "Forty Years," your sections are all out of the super before any attempt is made to clean them. Then how can the super have anything to do with the speed at cleaning? Of course, I note that you say you take your sections out in bulk, but my sections will also come out in bulk from the Langstroth and Ideal supers, and I imagine the slats would be about as easily lifted off as the T-tins; and I can not see why the fences won't come out as easily as your plain sawed separators, though I must confess it generally takes a good, stout knife all the way through to disengage the pieces, as they are so everlastingly glued together with propolis. I very seldom take them out in bulk, but one row at a time, and it is generally done right out in the yard and among the bees. I just tip up a Langstroth super on one side, or an Ideal super on one end, as the case may be, right on the hive where it was filled, with bees and all in it, and with my right hand on the bottom of a slat, and my left hand on the top of an adjoining section and super-body, I work my fingers among the bees until I get good bearings, and begin pushing until one row of sections comes out. I then shake off the bees and set that row on top of a near-by hive, and with a knife I loosen another row and take it out, and so on until I get a load to carry in the house. I have found this the most practical way I have ever tried for the bulk of my crop. Sometimes, when bees are cross, or robber-bees are bad, I have to smoke the bees down and run inside fortifications with the super to do the work, but these are exceptional cases.

But to get back to the point: You say your honey comes out of the super in bulk. Well, I suppose all bee-keepers bulk their honey when it is taken out, anyway. What I want to know is, how the T-super makes any short cut at cleaning. My honey (what I have left of it) is now bulked on a long bench made by laying some 16-foot barn-boards on hive-bodies, and I can pick up 8, 10 or 15 at a time by simply griping two outside sections in a row and pressing the others between like a printer does a form of type. I could set a number of them on a cleaning board in a jiffy, and throw a clamp around them and wedge them up as you say "Philo" does, but I can't see where the T-super part comes in to help me out in the matter.

My sections are protected on the bottom and sides, and the top is nearly always the hard part to clean. Now, I can not see how it will better the case to give the bees a chance to gob up the bottom. Nevertheless, I think what you say must have something in it, and I desire to test the matter the best I can, and I want all the light I can get beforehand. And now we go for the questions:

1. In what particular way does the T-super assist at cleaning sections?

2. Do you think your methods of manipulating T-supers would work as nicely with plain sections and fences as with bee-way sections and sawed separators?

3. Did you ever try the all-metal separators made of woven wire? If so, what was your experience with them?

4. Do you think it would be easier to push the super full of sections out of a T-super than it would a Langstroth super, or an Ideal super with slats?

5. Do you think it much easier to lift out the T-tins than it would be to lift off the slats?

6. Do you think it easier to lift out the sawed separators then the fences?

7. Do you not think plain sections would scrape much nicer in a clamp than the bee-way section, there being no chance for propolis to drop down between the sections?

8. How do you keep bits of propolis from flying against the faces of sections and sticking there, anyway while cleaning 2000 a day in that dexterous fashion?

9. How do you keep your scraper clean? I have always practised cleaning one section at a time with a knife; the latest is a butcher-knife, and I find a very few strokes clog it up so the edge is of no service, and so I devised a damp cloth to wipe it on. Sometimes it has to be wiped several times while cleaning a section, and the cloth fills up with propolis. I used to wipe it on my apron, which consisted of an old cotton wheat-sack ripped up and arm-holes cut in it, until I got a good portion of it well veneered with bee-glue, and I got tired of that. The knife clogs especially quick when a little honey has run out and stands on the wood with the propolis.

10. When cleaning sections, how do you manage the parts that are gummed with honey as well as with bee-glue?

11. Well, you can supply this question, as I think I have gone far enough; but I will add that I think I am getting a little above the average with the butcher-knife. I can beat "Colorado." I can clean 200 a day all

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right, and then some; but I will confess that I do not try to take off the stains. I have found that a great deal of the stains on my sections penetrate considerably into the wood, and so I content myself with making them smooth and unsticky. MISSOURI.

ANSWERS.—I am glad of the prelude, for it gives me a better idea of just what you want answered.

1. I think you have an idea that I credit to the T-super more than I actually do give it credit for in the way of shortening the work of cleaning sections. I don't for a minute think it makes all the difference between cleaning 2000 and 500 or more. The most important particular is the opportunity of handling the sections in a block. If I think the next 9 answers do not bring that out clearly, I'll return to it in the 11th question.

2. Yes, and no. Depends upon what you mean by the question. One of the beauties of a T-super is that it adapts itself to a section of any kind. Indeed, you can use sections of 6 different widths in the same T-super at the same time. Can you do that with any other kind of super? I have used in the same T-super at the same time plain sections and bee-way sections, plain sawed separators and fences. If that's what you mean by the question, then my answer is yea; and I may say that the T-super used with plain sections and fences gives the same advantage over other supers, as when used with the bee-way sections and plain separators. But if you mean to ask whether I can work as rapidly with a T-super filled with plain as with bee-way sections, my answer is no. I can't say about others, but in this locality it's slower work taking out fences than plain separators, and slower work cleaning plain sections than bee-way sections.

3. I tried them when they first came out, many years ago, and at this distance I can not give particulars, but I did not find advantage enough in them to adopt them.

4. It is not easy to answer without the opportunity to try the two side by side; but it may be said in general that there ought to be very little difference in emptying two supers if the entire contents of each super comes out in a mass.

5. Yes. Even if a T-tin were no more easily removed, there are only 3 in a super.

6. Yes. A knife will slice right through at one stroke between the sections and the sawed separators. With fences you must hesitate at each post or you'll cut into the post. Whether you have plain separators or fences, it's easier to get them out of sections from a T-super than from any other super that allows the sections to be close together endwise. For in the T-super the sections are about ⅛ inch apart endwise, and when at the proper temperature you can strike with the ball of each hand at the two ends of a row of 4 sections, and the single stroke will loosen all 4 sections from the fence. That trick is in constant use in this locality, and I think it's possible only with a T-super.

7. One ought to scrape about as well as the other, provided there be a perfect adjustment. But in clamping together a superful, it would be nothing strange to find a good many places where one section was 1-16 inch or more higher than its next neighbor where the two joined; this would make more trouble with the plain than with the bee-space sections. Bee-glue has the better chance to fall through the bee-spaces, but in this locality that is not a serious trouble.

8. It doesn't stick, because it isn't sticky. It's merely dry powder or larger pieces of entirely unsticky glue.

9. We don't have any trouble of that sort. The secret of it is that we don't work with sticky propolis, and I don't believe you need to either, if you wait till it's cool enough to be brittle.

10. If there be honey on a section it will be on the top. If there is any considerable quantity it is first lifted off by sliding under it a case-knife and scraping the honey from the knife into a dish. Where there isn't enough to scrape up thus, or after it has been scraped up, a cloth quite wet mops off the honey, and a drier cloth wipes it off.

11. This is the hardest of all to answer, but I'll not attempt to answer *all* I can think of. I feel like first asking *you* a question: Don't you think you ought to be a bit ashamed to shirk off upon the other fellow the task of asking all your questions heretofore? Never mind about that, but let's go back to the first question. You may possibly not have caught the idea from what has been said that when a superful of sections is emptied out, all you have to do is to lift off 3 T-tins, and you have full chance at the whole top and bottom of the superful, and when you have the tops and bottoms of the sections cleaned you have the job pretty much done. If there is any other super with which that can be done, it does not now occur to me. You are quite right that you can assemble in the same way the sections from any super; but you must first take them apart and then put them together again. The T-super saves this.

When you say you take out 4 sections at a time and then get the bees off, I can't help wondering whether you would not get along a good deal faster to take off the whole super, and after piling up 10 or 12 supers allow the bees to get out of their own accord.

I don't know whether there may be anything in your circumstances to oblige you to clean sections while the glue is soft, but I feel pretty sure you would get along twice as fast if you would do the work when the glue is brittle. The soft glue falling on the face of a section and sticking there is a thing that never occurs here, and it's ever so much easier to scrape off dry, brittle glue than the sticky stuff.

Now after all I've said in favor of the T-super, I advise you to go slow and try it on a small scale before you think of investing much in that direction.

Good Prospects for Honey

My bees have wintered very well and are at present very busy gathering pollen and maple sap, but no flowers are yet to be seen. The thermometer was up to 80 degrees above zero in the shade for nearly 4 days in March, when a sudden change came and the thermometer went down to nearly zero. April started in pretty cool, but it is getting warmer every day, with a little rain. Everything is getting green up here, and prospects are for a good honey-year. B. F. SCHMIDT.

North Buena Vista, Iowa, April 4.

Unfavorable Weather

I took my bees out of the cellar April 3, after a confinement of 4 months. I found 3 colonies dead out of 55. The weather since then has been quite cold, cloudy and windy. Today it is freezing, with a high northwest wind, and "spitting" some snow. It is rather unfavorable weather for bees or farm work.

Riceville, Iowa, April 8. A. F. FOOTE.

Ventilation in Wintering Bees

My bees swarmed very little last year, and gave me very little surplus. As it was cold and wet the bees did not build up in time for the clover. They used most of the honey for brood-rearing, but they went into winter-quarters in good condition. I dug them out of 4 feet of snow on March 13, and they had a good flight, so I think they will come out all right.

I read a good deal in the American Bee Journal about ventilation in out-door wintering. In moving my bees into the winter boxes, I close the entrance with a piece of tin with 5 small holes, so small that a bee can not get its head through. In putting the bees into winter quarters a couple of years ago, I missed taking one of the tins out, and they were closed up 5 months. When I came to take them out I found the tin there. I thought surely they would be dead, but when I opened them I found they had wintered the best of any in the yard. So much for ventilation. I may say that they had a little upward ventilation, as had all the rest.

Clarksburg, Ont. EDWARD KNOLL.

First Spring Pollen Record

The weather is warm. I have some losses of bees, but not heavy except in 2 groups numbering 14 colonies, which I let go into the winter in a quite unusual way.

The first pollen was brought in yesterday. The following is the first pollen-gathering record for 28 springs:

1880....March 30	1894....March 17
1881....April 14	1895....April 5
1882....March 2	1896....April 11
1883....April 10	1897....April 18
1884....March 27	1898....March 21
1885....April 20	1899....April 12
1886....April 12	1900....April 7
1887....April 9	1901.... (?)
1888....April 5	1902....March 23
1889....March 22	1903....March 17
1890... April 8	1904.... (?)
1891....April 2	1905....March 26
1892....April 3	1906.... (?)
1893....March 31	1907....March 26

Of the first 13 there were only 4 in March; the last 13 have 7 in March. So the notion that the springs are later now don't amount to much. E. E. HASTY.

Toledo, Ohio, March 27.

Rearing and Mating Queens

Last season with one colony I reared 47 queens in 90 days. This colony built all the cells, nursed all the cells till the queens were hatched, and nursed all the young queens till they were mated with the drones. I tested a good many queens and I made an increase of 3 colonies from this colony, and this spring the colony is one of my best. I am getting this colony ready now to rear queens this season.

If I would have the time in August and September to rear queens, I could rear 100 queens with a single colony in only one season, and the colony would do all the work. With my method I need not make nucleus colonies, nor break up a colony. With this method of rearing queens you can find out how many queens will meet more than one drone. The last lot of queens I reared last season I watched closely to see how many queens would meet more than one drone, and out of 11 queens 6 queens met 2 drones each. I had one queen that met 3 drones.

The 3 queens I received as premiums last July are fine queens, and are better than I expected to get. The 3 queens breed nice bees. I am so well pleased with one of the queens that I will use her as a breeder this season. She is leather-colored, and her bees are the same, and are uniform in bands.

JACOB F. HERSHEY.

Lancaster Co., Pa., April 8.

Alsike for Bee-Pasturage

I wish to answer a question asked last spring about this time in Gleanings. The questioner lived in Iowa, and asked the question: "What shall we plant or sow for bee-pasturage?" The same answer that would be true then is true now. There is nothing better than alsike or Swedish clover. It makes as fine honey as white clover or as sweet clover. And no other clover makes as fine hay for any kind of stock as alsike. All kinds of stock like it, and will eat all of the stems up. Then the second crop comes in good play for fall honey.

We sow nothing in the clover family but

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alsike. Some people get the impression that alsike and alfalfa are the same thing, but this is a mistake. Alsike must be sown with timothy, as the stems of the alsike are so limber it can not stand alone. It can be sown in the spring with the small-grain crop.

I have just received the March numbers of the American Bee Journal, and it seems as if an old friend has come to see me. The heading on the outside says 47th year. Forty-one years ago last fall I traded my old musket, that I brought home with me, for my first colony of bees, and it was up and down with me (down most of the time) until Thomas Chantry recommended me to take some good bee-paper. So I took the American Bee Journal, and from that time on I made better success, but I had a great many failures. I always tried to do better next time.

Menlo, Iowa. O. P. MILLER.

Bees and Honey in Montana

Bees are doing fine here. I have 35 colonies which I run for comb honey. I got 100 pounds of honey from each of some colonies, and the queens I got from you did better yet. I rear my own queens now and want nothing better.

I get 25 and 30 cents per pound for comb honey, and $10 to $15 per colony for bees. I winter them outdoors. I have 4 colonies in one tenement house, but do not like it as well as a single chaff hive. My main honey-flow is from wild roses.

I clipped my queens March 23 and found one dead out of 35. For experiment I left 2 supers of honey on. The honey was extra-fine, but the bees are dead.

FRED HOFFMAN.

Lewistown, Mont., March 26.

Queens By uniting swarms from 1000 colonies **Supplies**

I sell queens at—1 queen, 25c; doz., $3. Also following supplies at ½ Root's prices: 1000 P. & I. fences; 1000 plain section-holders; 1000 4¼x4¼ plain sections; Daisy foundation fastener; 10-inch foundation mill; 200 10-frame wood-zincs; 2 doz. Porter escapes; 500 Hoffman frames. **R. M. SPENCER,**
4A16t **Nordhoff, Cal.**

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13A10t BEEVILLE, Bee Co., TEXAS.

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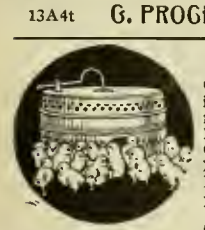
13A4t **G. PROGHNOW, Mayville, Wis.**



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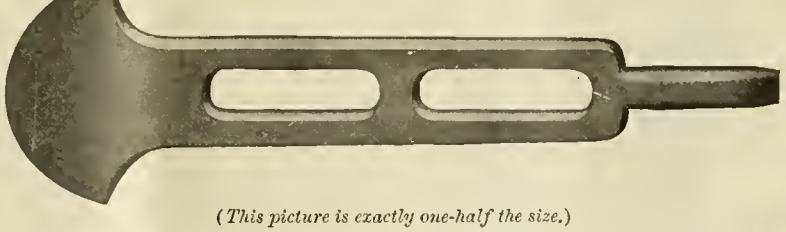

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DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8⅛ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

GEORGE W. YORK & CO., 334 Dearborn Street, CHICAGO, ILL.

Standard-Bred Italian
FREE
PREMIUM QUEENS

We are booking orders now for those **Fine Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.

Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.

Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.

N. P. OGLESBY.

Washington Co., Va., July 22

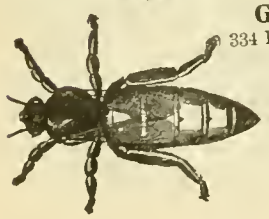
George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.

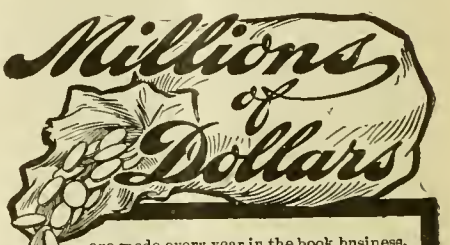
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.





are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

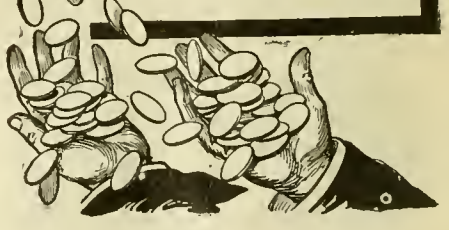
Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
Dept. G 28 Jackson Blvd., Chicago



American Bee Journal

CONVENTION NOTICE.

Minnesota.—The Minnesota Bee-Keepers' Association will hold its spring meeting on Saturday, April 20, 1907, at the Old State Capitol in St. Paul. The afternoon session will commence at 1 o'clock, and the evening session at 6 o'clock. Free refreshments will be served from 5 to 6 o'clock, by the lady members of the Association. A leading feature of the afternoon session will be a practical demonstration of the modern method of queen-rearing, by Chas. Mondeng; and at the evening session the simplest way to cure foul brood. Papers will also be given on, "Spring Management," by Wm. McEwen; "Production of Comb Honey," by Chas. Blomquist; "Shipping Bees and Honey," by Mr. Gent; "Bee-Keeping in Connection with Farming," by Pres. H. V. Poore; "Bee-Keeping for the Beginner," by W. R. Ansell; and a paper by Mrs. E. E. Merrill. Questions on bee-keeping by any one interested will be fully discussed and answered. Lay everything aside and attend this meeting; you will never regret it. We want every one to come, whether a member or not. Brother and sister bee-keepers are all cordially invited. The membership dues are $1.00 a year, including membership in the National Bee-Keepers' Association.

CHAS. MONDENO, Sec.
Minneapolis, Minn.

Wanted A man to work 250 colonies of bees on shares, or to work by the month for wages. State age, experience, and wages expected, in first letter.
14A3t W. E. FORBES, Plainwell, Mich.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.
THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

Best No. 1 Sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.
H. S. Duby, St. Anne, Ill.
6A14t Please mention the Bee Journal.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc, as we can save you time and freight. Beeswax Wanted for Cash.
H. M. HUNT & SON,
REDFORD, Wayne Co., Mich.

NORTHERN KING QUEENS
One Untested, 60 cents; 2 for $1. Tested, $1 each. Breeders, $5 each. Mailed June 1st. Orders booked now. Address, B. F. SCHMIDT,
R.F.D. No. 1, North Buena Vista, Iowa.
14A2t Please mention the Bee Journal.

BEE-SUPPLIES
Hives, Sections, Comb Foundation, Smokers, etc. Best of goods, reasonable prices, and a "square deal." Send for free catalog.
ARTHUR RATTRAY, Almont, Mich.
12A13t Please mention the Bee Journal.

26 EGGS from my Choice Strain White Wyandottes, $1.00
J. F. Michael, Rt 1, Winchester, Ind.
14A4t Please mention the Bee Journal.

ITALIAN QUEENS
That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2-frame nuclei with Young Queen afer June 1, $2.00. GEO. W. BARNES.
15A26t Box 340. Norwalk, Ohio.

BEE-SUPPLIES
PERFECT GOODS LOW PRICES
A Customer Once, a Customer Always.

Now is the time for you to buy your Bee-Supplies. We manufacture Bee-Hives of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

KRETCHMER MFG. CO., Council Bluffs, Iowa.
Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in April:

One Tested Queen	$1.65
" Select Tested Queen	2.20
" Breeder Queen	3.30
" Tested Caucasian	2.00

Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

J. L. STRONG
15Atf 204 E. Logan St., CLARINDA, IOWA.
Mention Bee Journal when writing.

How to Make Money Easy
Restock your apiaries with Atchley Queens; they do the rest. We breed all of the leading races in their purity. Untested, $1 each; $9 per doz.; $60 per 100. Tested, $1.50 to $2.50 each; Breeders, $3 to $5 each. 1, 2, and 3 frame Nuclei, and bees by the car-load, our specialty. Get our prices before you buy. We manufacture standard bee-supplies cheap. Catalog free. Will exchange queen-bees or bee-supplies for honey. Beeswax wanted at all times. **The Bee & Honey Co.**
WILL ATCHLEY, Mgr.
11Atf Box 218, Beeville, Bee Co., Texas.
Mention Bee Journal when writing.

SOLID GOLDEN QUEENS
Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.
H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.
Mention Bee Journal when writing.

Italian Queens ALLEY'S AND PRATT'S
Golden breeders. My own strain 3-banded dark, 1907, Untested, $1; Tested, $1.50. Queens mailed soon as weather permits rearing.
16A1t C. D. BENTON, Akin, N. Y.

Bee-Supplies and Berry-Boxes
Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices, I give the regular discounts. Beeswax wanted. Send for Catalog.
6Etf W. J. McCARTY, Emmetsburg, Iowa.
Mention Bee Journal when writing.

Big Reduction in Supplies
Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. FREE—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.
W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

29 Years Means QUEEN Quality
100 pounds to the colony in a poor year, like last, and 280 to the colony the year before. My Italians are non-swarmers. Every queen purely mated or money back. Circular tells of Italian and Caucasian.
8Etf A. D. D. WOOD, Lansing, Mich
Mention Bee Journal when writing.

Queens
The finest in the land from DANIEL WURTH & GRANT.
3-Banded, Red Clover, and 5-Banded Goldens.
The Goldens took First Premium at every Fair they were exhibited last year.
Prices:—Untested, $1.00 each; Tested, $1.50 each. Address,
DANIEL WURTH & GRANT
PITKIN, ARK.
☞ Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W. 6ESt

Italian Bees and Queens

Untested....	$ 75	1 fr. Nucleus (no queen)	$1.50
" Select	1.00	2 fr. " "	2.00
Tested	1.50	3 fr. " "	2.50
" Select	2.00	(No disease.)	

E. M. COLLYER
16A1t 75 Broadway, OSSINING, N. Y.
Mention Bee Journal when writing.

YOUR MONEY IS GOOD

You know that. We know that. Every one knows that. If it were not, every one would not be ready to take it. You and you alone must insist on returns, real returns for the good money you spend for bee-supplies. If you don't see to it that you get your money's worth no one will.

NOW WE WANT TO ASK YOU A QUESTION

Do you know that you are losing money—real, hard-earned money—every time you put a colony of bees into a cheap, poorly fitting hive? You are, for the good reason that the bees are spending most of their time building over the hive when they ought to be making honey.

HONEY MEANS MONEY

Thus more than the money that you think you are saving when you buy a cheap hive the bees are losing for you "hand over fist," and you don't know it. It's the fault of the hive.

That's why some bee-keepers get a whole lot more honey than others. That's why the man using the best goods makes the most money when it comes to cashing in at the end of the season. We can prove that. Men can build hives cheaper and better than bees. Then why not have everything just right to begin with?

LEWIS HIVES ARE BUILT RIGHT

DISTRIBUTING HOUSES

ENGLAND—E. H. Taylor, Welwyn, Herts.
FRANCE—Raymond Gariel, Paris, 2 ter Quai de la Megisserie.
CUBA—C. B. Stevens & Co., Havana. 19 Oficios
C. B. Stevens & Co., Manzanillo.
CALIFORNIA—The Chas. H. Lilly Co., San Francisco, 141 Spear St.
SOUTHERN CALIFORNIA—Paul Bachert, Lancaster.
Doyle-Barnes Co., San Diego.
Fallbrook Co-operative Ass'n, Fallbrook.
COLORADO—Colorado Honey-Producers' Association, Denver.
Grand Junction Fruit Growers' Association, Grand Junction.
Robert Halley, Montrose.
IOWA—Adam A. Clarke, Le Mars.
Lonis Hanssen's Sons, Davenport.
W. J. McCarty, Emmetsburg.
ILLINOIS—York Honey and Bee-Supply Co., Chicago, 191 E. Superior St.
Dadant & Sons, Hamilton.
INDIANA—The C. M. Scott Co., Indianapolis.
MICHIGAN—A.G.Woodman Co.,Grand Rapids
MASSACHUSETTS—Alvin A. Vinal, Marshfield Hills.
MINNESOTA—Wisconsin Lumber Co., Minneapolis, 432 Lumber Exchange.
MISSOURI—E. T. Abbott, St. Joseph.
OHIO—Norris & Anspach, Kenton.
OREGON—The Chas. H. Lilly Co., Portland.
PENNSYLVANIA—Cleaver & Greene, Troy.
TEXAS—Southwestern Bee Co., San Antonio, 438 W. Houston St.
UTAH—Fred Foulger & Sons. Ogden.
WASHINGTON—The Chas.H.Lilly Company, Seattle.

G. B. LEWIS CO., "The Original Beeware People" Watertown, Wis.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The
American Bee-Keeper
for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of BEE-SUPPLIES OF ALL KINDS.

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]
Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER
CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, April 4.—Market is quite bare of best grades of comb honey. When sales are made it is on a basis of 15@17c, with very little outlet for the off-grades. Extracted, 7@8c; off grades, 6@6½c. Beeswax in good demand at 30@32c.
R. A. BURNETT & Co.

PHILADELPHIA, April 10.—Owing to the cold weather, there has been quite a demand for comb honey in the last 10 days; quite a number of odd lots have been moved in this market, with not so many arrivals as heretofore. We quote: Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax, very firm, 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Jan. 15 — The stock of white comb honey is pretty well exhausted, and we do not expect any more arrivals of large lots from now on. Prices are firm, and we quote from 15@16c for fancy white; 13@14c for No. 1; 12c for light amber. There is quite a little dark and buckwheat on the market, but no overstock, and we think that all of it will be disposed of before long at present prices, which we quote from 10@12c, according to quality. Extracted honey very firm, with sufficient supply to meet demand. California white sage is bringing from 8@8½c; light amber, 7½c; amber, 6½@7c; buckwheat extracted in fairly good demand at 6@6½c. Southern in barrels finds ready sale at from 55@70c per gallon, according to quality. Beeswax firm and steady at 31c.
HILDRETH & SEGELKEN

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Mar. 11—There is very little demand for extracted honey at this writing, which is only natural, owing to the unsettled weather at this time of the year. However, we are looking forward with interest to a revival of trade, as soon as the warm spring days are here. We quote amber extracted honey in barrels at 6¼@7½c, the price depending upon the quantity purchased. Fancy table honey in crates of two 60-lb. cans each, at 8@9c. There is little demand for comb honey owing to the lateness of the season. Choice yellow beeswax, 32@35c, delivered here.
THE FRED W. MUTH CO.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mar. 30—The demand for comb honey is light, as also are the receipts. The market is about bare of extracted. We quote: No. 1 white comb, 24 sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 28c.
C. C. CLEMONS & Co.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2 selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax, 32c, delivered here.
C. H. W. WEBBER.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.
Mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

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BEE SUPPLIES.

We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

THE FRED. W. MUTH CO.,
51 WALNUT ST., CINCINNATI, OHIO.

American Bee Journal

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago, there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville.
Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.

NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.

ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland.
J. Gobeli, Glenwood.

47th Year APRIL 25, 1907 Number 17

AMERICAN BEE JOURNAL

Apiary of Samuel Dysart, of Franklin Grove, Ill.
(See page 350)

Apiary of John P. Coburn, of Woburn, Mass.

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
13 "	10 "	500 "	10 "
26 "	20 "	1000 "	20 "
52 "	30 "	2000 "	30 "

These rates are subject to either time or space discounts, at choice, but not both.
Reading Notices, 25 cents, count line, subject to the above discounts.
Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards
are just the thing.
We send them by Return Mail

O WONT YOU BEE my HONEY.
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

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All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

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Italians Before July 1st				After July 1st			CARNIOLANS			CAUCASIANS		
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Untested	$ .75	$ 4 00	$ 7.50	$ .60	$3 25	$ 6 00	$ 85	$4 50	$ 8 00	$ .95	$ 5.00	$ 8 50
Select Untested	1 00	5.00	9 00	.75	4.25	8.00	1 10	5 50	9.50	1.20	6 00	10 00
Tested	1.50	8 00	15.00	1.25	6 50	12.00	1.60	8.50	15.50	1.70	9 00	16 00
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Straight 5-band Golden Breeders	$10.00	1-frame Nucleus (no queen)	$1 50
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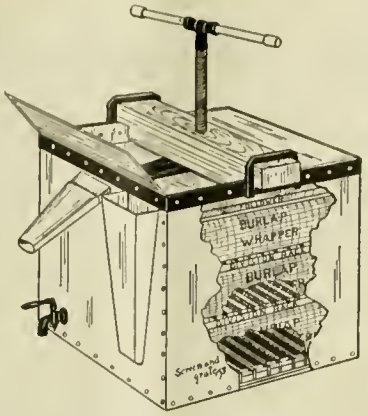

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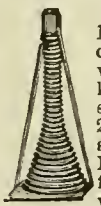

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American Bee Journal

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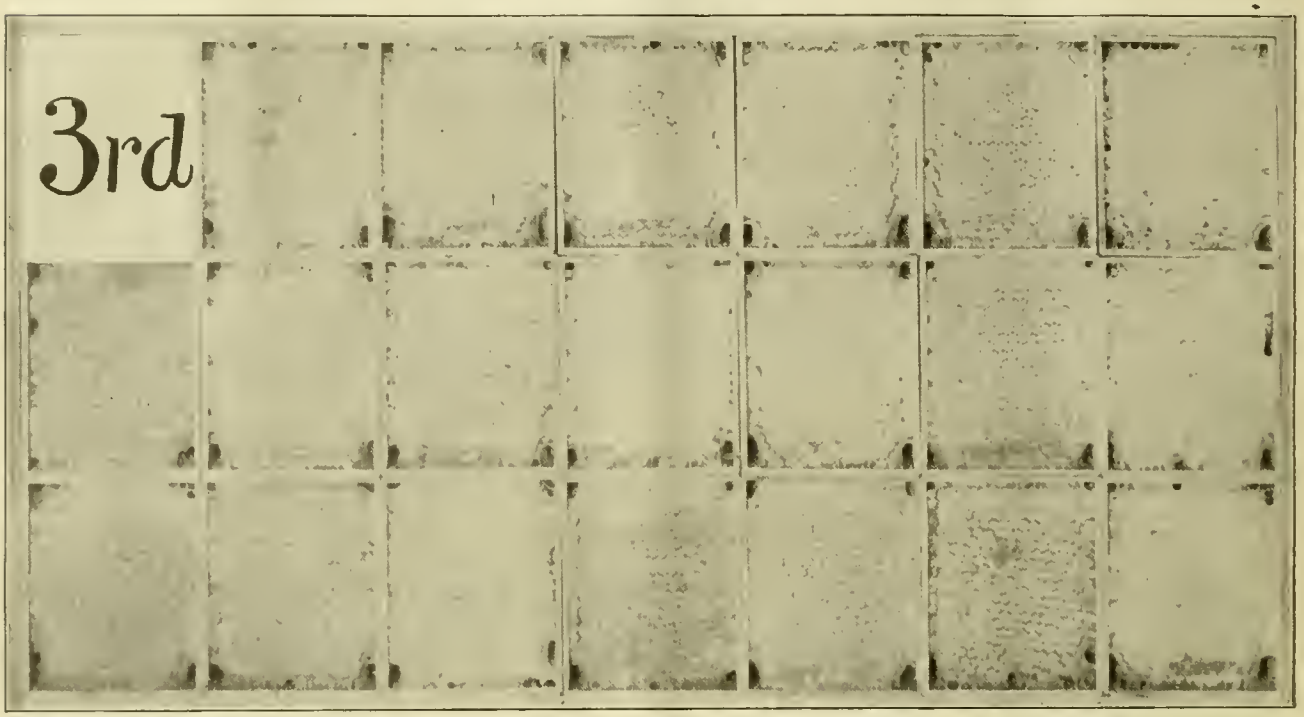

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(That is, more honey in the super at the right time.)

Better Honey

(More honey that will grade fancy and extra fancy.)

More Money

(No question but what the producer of a fancy and extra fancy grade gets a better price, and does it easier.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL 25, 1907 | Vol. XLVII—No. 17

Caring for Empty Combs

Various methods of caring for empty combs when not in use by the bees have been mentioned. Recently it was advised to wrap them in paper. Regarding this, Mr. E. V. Pagan writes:

MR. EDITOR:—On page 286, "Michigan" is advised to wrap his combs in paper to protect them from wax-worms. If the combs are free from the eggs or larvæ of the bee-moth when thus protected, the plan will be successful, for the moth that lays the eggs will be kept out. But the chances are 9 out of 10, if not 99 out of 100, that at least some of "Michigan's" combs already had eggs or larvæ in them, and these would go on with their work just as cheerfully wrapped up as unwrapped. Almost always, when combs are to be taken care of, they are combs from colonies that have died in winter. Such combs are pretty sure to have larvæ or eggs in them when left by the bees, and wrapping up would be no protection. E. V. PAGAN.

Abbott Plan of Queen-Introduction

Dr. Miller calls attention to the fact that the Abbott method of introducing queens has been mentioned several times in the American Bee Journal, though some seem not to have remembered seeing it, among them being Wm. M. Whitney. Here is what Dr. M. says:

MR. EDITOR:—On page 280, my good friend Wm. M. Whitney speaks of the Abbott plan of introducing queens, and says: "I have never observed it in any work on bee-keeping, nor in any paper, if I'm not mistaken." Are you not in the habit, Mr. Whitney, of skipping anything you find on the introduction of queens? Look at the American Bee Journal for 1906, page 449, 3d answer to Minnesota, where you will find, "There is probably greater safety in the Abbott plan of putting the caged queen into the hive 2 or 3 days before," etc. See also page 738, 1906, last sentence of reply to Massachusetts. Possibly, however, you don't spend time reading such elementary things as are to be found in the Question-Box—and I don't blame you for that—but surely you ought not to have omitted the editorial page 798 of the same volume, where the 3d sentence on the page reads, "Mr. E. T. Abbott advises this imprisonment without losing the time of the old laying queen," and then particulars of the plan are given. I am pretty sure mention of the plan can be found in other places, but the ones mentioned are enough to free the American Bee Journal from the charge of neglecting to mention what you esteem an important item. C. C. MILLER.

Loose-Hanging versus Self-Spaced Frames

The editor of the Bee-Keepers' Review valiantly champions loose-hanging frames. He says:

"The American Bee Journal says that I make it appear that the self-spacing is most valuable for holding the frames in place when moving bees, when the greatest value is in the rapid handling that may be done with self-spaced frames—no time used in spacing them. Let's see about this rapid handling. With self-spaced frames some sort of a wedge or spring must be pried out. Then a dummy must come out—and oh, how it does stick, sometimes."

Isn't that something new that a wedge or spring must first be pried out? Has it ever appeared in print before? Perhaps his is an unfortunate locality, for with the right kind of self-spacing frames there is no more need of wedges than with loose-hanging frames, and they are just as objectionable in one case as the other.

"Then a dummy.....and oh, how it does stick, sometimes." Yes, sometimes. And how a loose-hanging frame does stick, sometimes. But with the right frames and dummy, what need of a dummy sticking? Of course it is possible to have a dummy so made and so used that "how it does stick" applies; but there is no need to have it so made and used, ever.

Mr. Hutchinson says further:

"Then the frames must be pried apart. Sometimes it is possible to pry the brood-nest apart in the middle, but oftener the frames are stuck fast so tightly that it is necessary to commence at one side and pry the frames loose one at a time until the middle of the brood nest is reached, when, at *last*, we are ready to remove a comb. All this does not strike me as very rapid handling. With loose-hanging frames it is necessary only to pry loose a comb each side of the one to be removed, press them over a little to one side, when the comb between can be lifted out."

It is to be feared that the bad cases have made so strong an impression on Mr. Hutchinson's mind that the good cases are too little considered. Possibly, too, the good cases are greatly in the minority. Later he speaks of Hoffman frames as especially objectionable. There are self-spacing frames and self-spacing frames, and there is a material difference between frames with the end-bars partly or wholly in contact and those with the small point of contact of nails or staples. He says, "Sometimes it is possible to pry the brood-nest apart in the middle," and he might well have added, "and with the right frames it is always possible." Also, he might well have added a "sometimes" to the statement that to get out a loose-hanging frame it is necessary to move only 2 other frames; at least he has been extremely fortunate if he has not met cases where it was necessary to move 3 or 4 other frames.

It must be admitted that self-spacing frames may be so bad that to get out the first frame is harder than to get it out of nicely managed loose frames, and if Mr. Hutchinson insists that the worst case of loose frames he ever met was not to be compared with some cases of self-spacers, no one "in this locality" is inclined to quarrel with him. But when there is so much difference in self-spacers, it is hardly fair to condemn all because some are at fault.

Again, Mr. H. says:

"In the matter of getting the combs back, one kind can be put back as rapidly as the other. After they are in the hive, the loose-hanging frames will probably need some spacing with the fingers, but this won't take so very much longer than it does to put in

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the dummy and get it into place with wedges or springs."

"Loose frames will probably need some spacing." Some of the veterans who handled loose frames for years will smile at that "probably." If Mr. Hutchinson has a gift that allows him to put loose frames in proper place instantaneously, or even to space them afterward correctly in less time than he can return self-spacers, he is an expert in that direction, and it is hardly fair to decide the case by his performance. It is probably a moderate statement to say that the average bee-keeper will put in the dummy (for he has no need of "wedges or springs") in one-fourth the time he will take to space the loose frames satisfactorily; and when it comes to exactness of spacing, he will in 2 seconds space the self-spacers more exactly than he can the loose frames in a whole day with only eyes and fingers. Mr. Hutchinson says:

"I have used the 2 kinds of frames, side by side, in our own apiaries the last season, and my choice comes from actual practise, not theory nor prejudice."

Undoubtedly, Mr. Hutchinson; but have you not been unfortunate in the kind of self-spacers? Try a better kind, and see if you will not change your verdict.

Miscellaneous News-Items

Central Tennessee Association.—The bee-keepers of Davidson and adjoining counties in Tennessee met March 30, and organized the Central Tennessee Bee-Keepers' Association. The election of officers resulted as follows: President, John M. Davis, of Spring Hill; Vice-President, W. M. Joseph; and Secretary, J. M. Buchanan, of Franklin.

It was a very enthusiastic meeting, and the Association starts off with 15 members, representing Davidson, Wilson, and Williamson counties. The members of the Association believe that the bee-keeping industry can be made a much more important business in Tennessee than it is at present, although the interest in it has been increasing during the recent past. The time of the next meeting will be Saturday, April 27, at 10:30 a.m., in Nashville, in the building occupied by the local Board of Trade.

A Correction.—On page 317, 3d paragraph in the article, "How to Clip a Queen," it says, "In the *left* hand is held a fine pair of curved-pointed surgical scissors." This should be *right* hand.

The Apiary of John P. Coburn, of Woburn, Mass., is pictured on the first page this week. When sending it, he wrote as follows:

I enclose a picture of my apiary. There are 74 hives in the yard in 4 rows, only 2 of them showing in the picture. Forty of the hives have outside winter-cases, allowing 1¼ inches of corkdust packing at the sides, 2 inches at the back, and one inch at the front. Twelve colonies are in Dadant hives with Jumbo frames; these are without winter-cases, but have corkdust dummies on their sides and the same cushions on top. There are also 2 tenement winter-cases with 4 hives each, which have leaves for packing at the sides. Several hives have 2-ply roofing-paper for winter protection around them.

Until 10 years ago I had my bees in box-hives with drawers in them for surplus honey.

There are in this apiary 5 different styles of frames. Seven of the colonies are on Danzenbaker frames, and 4 on 6-inch double extracting frames, thus making a sectional hive.

I make my own hives, principally—that is, the bodies; I buy the inside fixtures in the flat. I am not a carpenter, nor the son of a carpenter, but I think I could give something that would be of interest to bee-keepers about making hives and winter-cases.

My granddaughter, who is in the High School, took the picture.

JOHN P. COBURN.

The Apiary of Samuel Dysart, on the first page, was thus described by its owner when sending us the photograph:

"The Pines Apiary" of 30 colonies is shown in winter quarters. I use 8-frame Langstroth hives as improved by myself. Each, as shown by the picture, is enclosed in a separate box, also made by myself. I think I have perfectly mastered the wintering of bees on the summer stands, by protection from cold and keeping them perfectly dry. I keep bees for both pleasure and profit. My plan is more expensive than most bee-keepers, but it gives me pleasure to see them thus protected.

The picture shows the apiary from the southeast, with the pine trees and the rear portion of my residence to the northwest.

I am now in my 73d year, and all my life since infancy I have been used to bees. I met Father Langstroth and Moses Quinby during their lives, and nearly all the time since the days of Samuel Wagner, as publisher of the American Bee Journal, I have been one of its subscribers. SAMUEL DYSART.

A Home Song

I turned an ancient poet's book,
And found upon the page:
"Stone walls do not a prison make,
Nor iron bars a cage."

Yes, that is true; and something more:
You'll find, where e'er you roam,
That marble floors and gilded walls
Can never make a home.

But every house where Love abides,
And Friendship is a guest,
Is surely home—and home, sweet home—
For there the heart can rest.

HENRY VAN DYKE,
in Country Life in America.

Conducted by J. L. BYER, Mount Joy, Ont.

Stealing Foul Brood

While present at the Victoria County Bee-Keepers' convention, held on Good Friday at Little Britain, Ont., Mr. Burton, of Lindsay, told me of an amusing incident that happened while he was learning bee-keeping with Mr. D. A. Jones, once so prominent in apicultural circles.

As many will remember, during the latter years of Mr. Jones' extensive bee-keeping operations, his apiaries became very badly affected with foul brood; indeed, I have heard some say that this was one of the main reasons he quit the business. Be that as it may, one of Mr. Jones' out-apiaries was particularly bad with foul brood, and only a mile or so away from this yard was a gentleman of none too good reputation who had upwards of 100 colonies of bees in the spring, in grand condition and free of foul brood. Along about the latter end of May, Mr. Burton and another gentleman visited the out-yard in question, and found that some one had been there before them and had taken a lot of the brood combs out of the hives. Suspicion at once fell upon the neighboring bee-keeper, but they decided to keep quiet and await developments.

About 6 weeks after this, the man who was suspected of the theft, came to the factory of Mr. Jones, and, meeting Mr. Burton, in the course of the conversation remarked, "Say, what does this foul brood look like that we are hearing so much about these days?"

Mr. Burton explaincd things as best he could, and the bee-keeper remarked, "I have it among my bees, sure."

At this juncture the foreman of the factory came in, and hearing this assertion, he, without hesitation, boldly accused him of the theft, and said it

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served him right if he lost all his bees. The man was so taken back at this that he never denied the accusation, and left the factory at once.

It seems he had gone through the Jones apiary and taken out all the fullest combs of brood he could find; they were then taken home and given to his colonies to strengthen (?) them. As he lost his entire apiary, this certainly was a case of "taking fire into his bosom" with a vengeance, and about on a par with the case of a thief going along the road one night and stealing the bed-quilts on which a smallpox patient had died, the quilts having been hung outdoors that evening for an airing.

Cement Hive-Stands

This is an age of cement construction, so it is not to be wondered at that bee-keepers are turning to this durable and inexpensive material for making hive-stands and other things connected with the apiary.

While at the Brantford convention R. H. Smith, President of the Ontario Association, was telling me that they are this winter making a number of these hive-stands for their own use. If I remember correctly, they make them in the form of a cross in molds made for the purpose. While it is not possible to make them very rapidly, unless one has a number of molds, yet if the work is done in the winter, or other time when the bee-keeper is not busy, this is no serious objection. Of course, if the work is done in the winter, it will be necessary to have some place to do the work where the frost does not bother.

The thing that struck me most forcibly was the extreme cheapness of such stands, Mr. Smith assuring me that the cement required for each stand did not cost over 2 cents each. As to cost of sand required, with most of us that is simply a matter of the labor required for hauling.

With the rapidly advancing prices of lumber, we need not be surprised if within 10 years the most of the present wood-stands will be superseded by cement; indeed, some have already used cement *bottoms* for their hives, but this departure at present is but in the experimental stage.

Comb or Extracted Honey for Beginners?

At the recent Brantford convention, the question as to whether a beginner should produce comb or extracted honey, was provocative of more discussion than almost any other topic presented. In the Canadian Bee Journal Mr. E. G. Hand, who conducts a "page for beginners," has the following to say on the subject:

"A question that presents itself to every beginner is whether he shall run his bees for the production of comb honey or extracted honey. He often decides in favor of comb honey, because he figures that the outlay for supplies will not be so large—no extractor, uncapping-knife, tin cans, or anything of that kind to buy. The production of first-class comb honey at a profit is a thing, however, that can be accomplished only by a person who thoroughly understands the handling of bees, and the money spent for section supers, sections, foundation, cases, crates, etc., and the time required to put these things together (breaking probably half the sections the first time it is tried) will come to nearly as much as would start in the plant necessary for the securing of extracted honey.

Another thing: When you have a stock of extracting combs and a good extractor, you have them for all time if properly cared for; and if you ever want to sell out, these combs are worth money—a lot of it. In the production of comb honey, everything except the supers must be bought and put together every year, and is sold with the honey. It is also much more difficult to control swarming when rooning for comb honey, and without control of swarming comb honey can not be produced successfully.

There are plenty of other reasons, too, but these will suffice for the present. After you have been running the bees a year or two and have become acquainted with them and with your locality, if you feel like having a "try" at comb honey, by all means have it. You will be far more likely to succeed than if you tried it first go off.

Quilts Over Frames

As to what percentage of bee-keepers on this side of the Atlantic use quilts over the frames, I would not have the slightest idea if asked the question. Editor Hutchinson has never used a quilt, and he says in a late issue of the Review, "If any one thinks I ought to use quilts, I wish he would write me." Commenting on this in the British Bee Journal, D. M. Macdonald says:

"I don't suppose many American apiarists will trouble to communicate with Mr. Hutchinson, and I know 999 out of every 1000 active bee-keepers on this side 'think he ought to use quilts.' Moreover, they would give him the most convincing argument men could produce by unanimously voting that they are the best and most natural covering for frame tops. The ease of manipulation with these coverings is an important point well worth consideration. The pleasure in handling frames thus wrapped up is one of the delights of opening up a powerful colony, because they lend themselves to a gentle, expeditious, and effective examination of the contents of a hive without unduly exposing or agitating the bees."

While I personally would use nothing but quilts, yet I am aware that a large number of extensive apiarists have no use for them. If for no other reason I would use them because they allow, as Mr. Macdonald points out, an examination of the colony without unduly exposing or agitating them at times when the weather is none too warm.

My bees are all packed on the summer stands, and during the first week in April I pushed the top packing forward and lifted up the quilt at the the back of the hive, and formed a good idea as to the condition of every colony in the yard. Not more than 2 hours were required to examine 100 colonies, and the majority of them were hardly aware that they had been molested. Had boards been on instead of quilts, I would have hesitated to open the hives so early in the season, as when bees are agitated so early in the spring there is great danger of some colonies balling their queens.

Conducted by Louis H. Scholl, New Braunefels, Tex.

Long Distance Bee-Keeping and Swarming

With 10 bee-yards to look after all by myself, with one horse and rig, I have been having my hands full. The mesquite-trees have surprised many of us by coming into bloom just about 4 *weeks* ahead of time, and then they opened up with such a rush that it required our attention at several yards all at one time. Since my nearest apiary is only 10 miles from home, and the farthest 180 miles, with the others scattered very much, it means a good deal of "humping" to get around. But with short cuts and systematic management I *believe* I am able to handle from 500 to 600 colonies, *all by myself*, except during the time of harvesting the honey—taking it off the hives.

Swarming—how to control it—is one of the much-discussed problems with out-apiaries. By leaving shallow extracting supers on all the colonies all the time to prevent crowding in the brood-chamber, and keeping the bees at work when there is something for them to do, giving freer ventilation by enlarging the entrances, and, if necessary, breaking up the solid brood-nest of sealed brood and providing laying room for the queen, it has been possible to curtail swarming until the honey-flow came on; and this is all that is necessary in our localities here in the South. As soon as the honey-flow begins, and the swarming fever does not already exist in the colony, the bees bend their whole energies toward storing honey, and swarming is entirely forgotten, it seems. Then the thing to do is to provide super-room and not let the bees become crowded. In this way I have kept down swarming to 2 percent for 7 years.

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More Texas Honey-Bloom

I have been asked to continue giving a list of Southern honey-plants, together with a description of each and their blooming period each month, but space forbids doing so in a satisfactory manner. A list will be given, therefore, of the rest of our March and April bloomers without the description, and these, if desired, can be looked up in some work on botany:

Populus monilifera, Ait. Our common Cot. tonwood or Necklace Poplar. Much pollen and honey. Extends into west Texas.

Citrus trifoliata, L. Hardy orange. Cultivated. Planted for hedges. Not abundant.

Spirea virginica, Britt. Bridal Wreath. Cultivated. Not important.

Asparagus officinalis, L. Cultivated asparagus. Bright colored pollen; little honey. Naturalized from Europe.

Phacelia globra, Nutt. "Phacelia." Ranges from Arkansas into eastern Texas.

Ricinus communis, L. Castor-oil plant. Cultivated and escaped. Pollen and honey; nectar-glands at base of leaves.

Celtis mississippiensis, Bosc., and *C. occidentalis*, L. "Hackberry" trees are most extensively planted for shade-trees. Valuable for pollen and some honey.

Cornus asperifolia, Mx. Dogwood; extends from Southern States into central Texas. Bees fairly roar on the blossoms.

Lupinus subcarnosus, Hook. Blue Lupine, or Blue Bonnet, is our State flower in Texas, and covers the ground with a blue mantel on fertile slopes and open places in woodlands; intermixed with *L. texensis*, not so plentiful. Honey-yield fair; much pollen of bright red and orange colors. Blooms into April.

Pisum sativum, L., cultivated garden pea; unimportant, but pollen sometimes.

Malus malus (L.), Britt. Apple, with fruit-bloom. Blooms into April.

Robinia pseudacacia, L. Black Locust; ranges from Pennsylvania into Texas. Honey-yield good if not hurt by cold weather, which affects it easily.

Cercis canadensis, L. Red-bud or Judas-tree. From Ontario to Texas; yields honey early, and aids in brood-rearing. March into April.

Ilex dicidua, Walt. Passinu Haw. Bearberry or Yonpon of the Southern States, into west Texas. Short honey-yield; sometimes very early and valuable for stimulating early brood-rearing. *S. caroliniana*, Irel., Yonpon; not so important.

Eysenhardtia amorphoides, H. B. K., commonly called Eysenhardtia, or Rock Brush, of southern and western Texas. Honey-yield abundant and of good quality; blooms several times during good seasons with much rain. In March, April, and May, and sometimes in June, July, and August.

It is difficult to give exactly the time these plants bloom, as an early or a late season influences plants very much, so that any of these may, in some years, bloom a month later, or even earlier, than during the average years.

Cause of Supersedure of Queens

There is something about bees superseding their queens that I have never been fully able to understand. You may take a poorly-reared queen—one that will not keep more than 3 or 4 Langstroth frames filled with brood in the height of the breeding season, and so long as she is young the bees, as a rule, will not offer to replace her with a better one. Take this poor young queen away, and introduce one that is 2 or 3 years old—one that her colony has been trying to supersede but is laying, and will lay more than double the amount of eggs than the young, poorly-reared queen—and the bees will persist in superseding this old queen. So I conclude it's not altogether the amount of eggs a queen lays that causes her supersedure, but more her age.

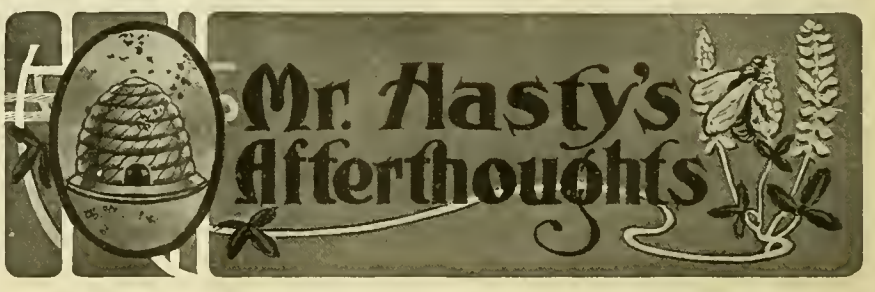
When any colony of bees in this State (Texas) on Feb. 1st has as much as a quart of good, healthy bees, and a queen that fails to bring her colony up to the swarming point by the middle of April, provided they are not allowed to run short of stores—you might as well pinch that queen's head off now as later, for such queens are not worth keeping. Let me illustrate:

Last fall, when I reared my last batch of queen-cells, I noticed that one of the queens that hatched from this lot of cells was small, and showed all signs of being worthless; but as I needed her I concluded to use her anyway until I could replace her with a better one. So I put her and a full sister (but well developed) each in a small colony of bees as near the same strength as I could tell, but both well supplied with stores. To-day (April 6) the large, well-developed queen has brood in 13 Langstroth frames, and the one with the small queen has brood in only 4 frames. Neither has had any help, only to give room as needed.

Let me say, it pays, and pays *big*, too, to have good queens.

Rescue, Tex. L. B. SMITH.

Yes, sir, it pays! It is an unknown quantity of honey that would have been secured year after year if the *queens* were better looked after. Nothing disgusts me more than to have colonies in the apiary that come up with empty supers, while others are "chucked full." And why? Just because the queen below these supers was not a good one. It makes a big difference whether the product from an average apiary is only 6000, or 10,000 pounds.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

MAKING FENCES CARRY THE SECTIONS.

Peter Bohm's scheme of making the fences carry the sections, and so dispense with the T-tins altogether, is quite ingenious, at least. Whether a great many will thoroughly like the arrangement is another matter. Possibly some will find it difficult to get the right kind of tacks. Possibly some will find the tacks pull out too easily. The old advice, "Try a few, and go deeper if you like them," seems sage. Page 147.

NON-SWARMING EXPERIMENTS.

Whoever can run a series of experiments in non-swarming and *have them succeed* is a public benefactor. Had a senate of experts voted on the theory propounded by E. W. Diefendorf, I doubt if a majority would have made a favorable forecast. But the results reached by trying this "off-side" theory are rather startling. First, in a year when nearly all swarmed the 2 experimental colonies did not. Next year—a year when more than half swarmed—24 experimental colonies gave but 2 swarms. One of these seemed not normal, but due to a quarrel over queen-cells that had to be built on account of the death of the queen. But sad was the result last year. Forty colonies were experimented with; not one swarmed—all right so far—but neither did the rest to any extent. Doubtless Mr. D. will go on until he makes assurance still more sure. Well, the results already attained entitle the theory to a respectful consideration. It may be stated in this shape: One great reason why colonies swarm is that they *overwork their queens*. Remove that cause and they will swarm less, or not at all. The theory seems to have some power to account for things. Old queen more easily overworked than one in her first prime—hence, colonies with old queens swarm worse.

Perhaps I can use its explanatory power in my own case. I have many rather weak colonies in spring. They squeak along making little headway for a long time. At last circumstances get favorable—warm weather, lots of pollen, some nectar (not enough to turn their heads), and the bees, now no longer weak, are most of them young. The way they come forward when they do get started once is a caution; and my, oh my, the swarms! Long since I came to suspect that this sudden forward rush was somehow or other part cause of the unusually swarmy record of my yard. If I thought to look into the why of it I stopped at saying, too many nurse-bees with no larvæ to feed. I see that this else might be said: Because in this vehement rush queens just then get awfully overworked. In either case my first labor in the non-swarming effort might profitably be to winter my colonies better. Then they would come forward more steadily, and queens would stand it better. Between

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this and the other saying—that nurses would be worried less carrying uncalled for larval food—there need be no clash.

But we decidedly need to remember that what proves the practise does not necessarily prove the theory. Practise may succeed from some other cause not discovered. The practise is taking away the lower half of a sectional brood-chamber just at the proper time. Taking away half the frames of an ordinary brood-chamber obviously might not do so well. Perhaps even that would be worth trying by those of us who have no sectional hives. Page 197.

HONEY AND SUGAR FOR CONSUMPTIVES.

Remarkable if consumptive patients can take with profit 17½ ounces of sugar per day. As suggested, it's worth trying if with honey they could not take still more, or rather, more of them take the large amounts. My additional suggestion is that half sugar and half honey may prove better than wholly of either. Try just a little of some strongly nitrogenous food, some milk, and all the rest sugar and honey. Should sugar and honey become the standard treatment for consumptives it would make quite a difference in the honey market. The advertisement and fame which honey would get would count more than what the patients would consume. I'm pretty well qualified at this point to be an experimenter myself. Have had for some 60 years a sort of chronic bronchitis—mild, only manifest by a little abnormal "ahemming," but always there. Liable to change to the worse disease some time, one might fear. And also for years I have dosed myself heavily with sweets. Have rung the changes pretty thoroughly on honey, dates, raisins, candy, and sugar. Simple granulated sugar seemed to argue itself into victory in the long run. But just now I'm back on honey again—mainly because the sugar I happen to have does not please me as to flavor and smell. There's a sort of "six o' one, half a dozen o' tother" in the shortcomings of honey and sugar, medically considered. The naughty sugar-men put in things invalids would better not eat, to color and condition their product. The naughty bees mix in aphis secretions. Also the naughty foundation-man puts in soap in tastable quantities—doubtless a serious bar to the eating of large quantities when the appetite is skittish, as invalid appetites are pretty sure to be. 'Pears like I could easily tell what would be the best curative sweet for invalid use—or, at least. for my use; but I will forbear to say. The dynamite might go off. Page 205.

Conducted by EMMA M. WILSON, Marengo, Ill.

Shipping Extracted Honey

I shouldn't wonder if many of the sisters were not better equipped than myself to treat us to some interesting chat connected with their actual experience in shipping and selling honey. Formerly we used barrels and sold to commission houses. The excessive weight of a barrel of honey constitutes one of the main objections to their use. When it comes to the loading of a barrel of honey two or more men are in demand, even when the use of skids, levers, etc., is taken into consideration. If not hunting for a blacksmith bill one must ever be on the alert as to the condition of every part of the wagon which is being pressed into service. Say you cheerfully pay a blacksmith bill—possibly mostly due to actual carelessness of others than yourself; after a wagon or two have been broken down, the handling of your barreled honey seems to have grown *decidedly unpopular* among teamsters, they taking no cognizance of the prior condition of said dilapidated wagons.

It is barely possible the back-breaking lifting has more to do with their disinclination to take hold. than wagon-breakage. Self-respect is a most meritorious attribute, but when it begins to meddle with a man or woman in the way of turning an honest penny to enable them to maintain an existence, it seems, in these days, not particularly in need of encouragement.

In the days of the barrel we were frequently forced to resort to the second-hand ones, and oh, the cleaning of them! There was much scraping, scouring, rinsing, and finally draining, to clear them of excessive moisture; then they must not get too dry for fear of shrinkage; and just about the time they were filled, pop! would go a hoop, and the chances were extremely good for having to change to another—a shameful waste of honey and time. Did the barrel stand the test until on the road, we saw it depart with a certain degree of apprehension as to the slipping and bursting of hoops because of inferior cooperage or second-hand material. After exercising every known caution to secure safe transportation we considered it *good luck* if permitted to congratulate ourselves on the safe arrival thereof.

Of course we have some trouble with any kind of honey put up in any form, unless we except that which is carried on a straw-bedded spring-wagon to a near destination, and handled alone by the producer.

The dread of handling was not alone responsible for my conversion to the use of 60-pound cans. Honey in barrels must be sold in a more wholesale way than if in smaller packages, and it usually landed in a commission house or wholesale bakery establishment. One commission firm held my honey, or money, almost a year, leading me to think that they would eventually get a better price, and when the returns finally came in, the selling price was the same as could have been obtained on its arrival—the wonder was that it was not less. Other firms, to whom I sold by sample, for a stated price, claimed, after the honey was in their possession, that it was not as good as the sample and proposed to let the deal drop, *unless I would take a reduced price.*

Again, in my rambles around a certain city, I stumbled on some honey being offered for sale and represented as coming from my yards, which in no way resembled my honey, and I postively failed to recognize it as anything I had ever handled. No comb honey from my yards had been placed on that market that season, yet here were nice glass cans filled with a clear liquid in which floated a nice, tempting piece of comb honey, all purporting to have been of my production! Had I not been satisfied that it was a glucose mixture, posing for extracted honey, it would have been a fine advertisement, but, as it was, I saw that if I sustained the reputation of my honey, I was compelled to get as close to the consumer as possible. Thus ended my barrel experience, and of all the packages since tried the 60-pound can comes nearer filling the bill than any other.

Gallon and half-gallon buckets are nice for a home retail trade, but let them be of the friction-top variety else there's trouble ahead for one.

Time was when I imagined it economy to use second-hand cans, but this illusion was short-lived, dying in its inception. One trip over the roads was all that was probably expected of them, by their makers, and the damage sustained by them on their initial trip runs all the way from a slight rupture to almost complete destruction, they sometimes being so battered as to bear very slight semblance to a can.

The crates are of light material and should be bound by scrap sheet-iron, or tin, at the corners, for most probably they will form the acquaintance of the freight-smasher before they reach the other end of the line, as their forlorn and battered appearance frequently tells the tale of a head-on collision somewhere *en route*. Distance does not always count, as we have had honey packages damaged as badly in an 80-mile transit, or perhaps more badly damaged, than in an 800-mile trip.

Nor are the railroad men altogether to blame, the condition of the cans and crates figuring largely in such mishaps.

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After being emptied of their contents cans and crates find storage-room in some city back-yard, with the sky for a roof, subject to the action of the elements aided by coal-dust and all other kinds of dust and filth of our cities; and granted that it does not affect the inside of the can, it mars the outside, and ever after the appearance of the whole is not conducive to either safe shipping or ready sales.

It might seem to some that an old, decrepit, scarcely-able-to-hold-together-package should command the more tender care, but the reverse is quite true. The freight-handler regards it more or less as worthless rubbish, and scorns its owner, in his mind; while things which appear to have had a friend at some time of their existence, command greater respect. Perhaps it strikes him that the man who has taken care as to the make-up of his packages would also the sooner make him trouble, on the discovery of mishandling.

Arrived at market the buyer eyes them suspiciously; reasons that they have come from some careless person or persons who would, most probably, take no more care of the inside and the contents, and thus such packages go a-begging, while bright, new cans, and clean, not weather-beaten crates, move off lively.

Many times second-hand cans have not been properly cleaned, and the time consumed in that is of more value than the difference of price between them and new cans. Oh, yes, I am aware there are plenty of people who have never learned to put a value on time, but are they found among live bee-keepers?

The injury sustained by exposure is not always confined to the crate and outside of the can—it sometimes is found inside, in shape of rust, than which honey has no greater enemy. Bee-keepers are careful to keep their wax from contact with iron, and users of second hand cans will soon learn it is of vastly more importance to shield their honey from iron rust.

New cans must frequently make a visit to the tinshop before they will hold, owing to punctures with nails in crating, and places which have been slighted in soldering. Old cans are as frequently punctured, and *more often* fissures are found caused from rust or having been crushed.

Again, does it not seem passing strange that bee-keepers will on the one hand fight for protection in the way of a foul-brood law, and on the other hand will ship the germs of foul brood into their apiaries in the second-hand can? "Oh, consistency, thou art a jewel." All the foul brood I have ever heard of in Missouri was shipped in. Of what avail are foul brood laws if we continue the shipping in and use of cans which are liable to carry the germs of this dreaded enemy?

It is of no use to agree to pay so much for the return of your cans, because you are certain of but one thing, that is, the number you claim as yours; it never occurs to the sender, that substitution is the least objectionable to you.

I wouldn't be surprised if the pure food law should step in and serve to sever that partnership between the bee-keeper and second-hand cans. If honey is found to be impure from contact with deleterious matter, will that not about settle the question?

We are almost frantic in our demand for pure white and unsullied sections for our comb honey; then we spend long tiresome hours in another frantic endeavor to remove the last vestige of stain in clean, new shipping-cases ornamented with paper lace to hide even the edges of the sections; and turn right around and put the same grade of honey, minus the bees-wax, in begrimed and otherwise repulsive looking cans. Is it because of a superior respect for the wonderful formation of the cells and beautiful cappings? Even so, why should we cultivate our taste to the extreme in the case of comb honey, and insult that very same inborn taste by slovenliness in connection with extracted honey?

By unthinkingly or willfully placing extracted honey in bad company do we not give it a black eye, and injure its reputation in more ways than in the mere selling of the same? By our being careless and less painstaking in the presentation of our extracted honey to the market can we blame the public for coming to the conclusion that bee-keepers themselves prefer comb to extracted honey?

Sisters, how would we rate a housekeeper who in setting the table would place either kind of honey in any but a pretty, clean and attractive dish? Were she to use a besmeared, untidy-looking receptacle, amazement would get the best of us, and we would shortly conclude that she had certainly gone daft.

Again as to canned goods in general, what house-keeper will buy a can that has the appearance of being anything but fresh? Is a can in the least bulged, battered, soiled or otherwise forbidding, it is disdainfully left to rest on the grocer's shelves. In fact, the dread of ptomaine poisoning deters many from using tinned goods of any sort. Water in honey will set up a fermentation, while honey in contact with rust will as surely set up a putrefaction.

In conclusion perhaps it would be the correct thing to assure the sisterhood that I am in no way connected or interested in any can manufactory or supply house. I simply offer that which experience has taught me, and it is scarcely necessary to add I have paid well for the lessons.

Miami, Mo. MARY E. NULL.

Government Aid to Apiculture

BY PROF. A. J. COOK.

I do not think that any Government in the entire Globe can compare at all with our own, in the valuable aid that is given to us by experts in the line of valuable scientific research. Our Department of Agriculture has a band of trained men, eminent in every line of scientific discovery, and these men keep their ears to the ground and are ever alert to come to the assistance of the practical man, whatever may be the difficulties that confront him. Our splendid "Pure Food Law" which is destined to be of such signal benefit, not only to producers but to every one that eats and drinks would, no doubt, have been withheld much longer, but for the grand work and influence of Secretary Wilson and his able assistants. This is only one of a long, and brilliant array of services that we owe to this excellent department of government work.

FOUL BROOD.

The bee-keepers of the country are not left out in this round of benefit. We who have had occasion to examine and study this disease that attacks our pets of the hives, know full well that there are two well-marked forms of the disease that destroys the brood, and so is a fatal obstacle to success. The one is ropy, and as it strings out from the cell when drawn by a pin or toothpick, flies back with a snap, as it lets go the pin. This, too, is very odorous, and is easily detected by the smell. The other differs in both respects. The former is more serious than the other, but both are quite destructive, and much to be dreaded. The Department of Agriculture has solved the riddle, and has shown that there are two distinct diseases, caused by two specific germs. The first one named above, is the old, best known foul brood, and it is called "American Foul Brood," while the other, often called "black brood" in the United States, and in New York, where it has prevailed, perhaps more generally than elsewhere, is now dominated "European Foul Brood." This is the one described in Europe some years ago, and is caused by the well-known *Bacillus alvei*. The other is our better-known form in most of the States of the Union, is more virulent, more pertinacious, and is caused by another micro-organism, *Bacillus larvae*. It is fortunate that both forms of disease succumb to the same treatment.

TREATING FOUL BROOD.

There is no doubt but that this dis-

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ease can be quickly banished from any apiary, by the well-known method, so long and successfully employed in Canada and many of the States. This is to change the bees from the old hive into new, clean hives with no honey, and to be sure that the honey that they carry from the old hive is all consumed before they have place to store it. There are two cautions that must ever be observed in all such work. If we shake the bees we must never scatter any honey, as it may carry the disease to other bees that sip up this sweet from ground or grass. We must also be equally cautious that no robber-bees gain access to the hive of the diseased bees, as the honey that they pilfer and carry off will very likely carry the disease-germs and so spread the disease. It is probably in these two ways that bees become attacked. By use of the bee-tent and a good sheet of canvas we may steer clear of spreading the mischief in manipulating bees that have the disease. Of course it is always best to work with the bees when they are actively engaged in gathering. At such times they are not likely to rob, and they are less likely to get any honey that, perchance, may be scattered about the bee-yard.

PEAR-BLIGHT.

I have before called attention to the fact that this disease is doing great harm in some parts of our State. As the pear industry was very remunerative in some sections, and as the fruit was very superior, and was produced in great quantities, this evil is very disturbing. The disease has, as I am told, entirely wiped out pear-culture in the rich County of Fresno. It has now threatened the same disaster in Tulare, Sacramento and Yolo Counties, and in many other sections of the more northern parts of the State. It is found that it does not need the bees, as it spreads where bees are rare as well as where they are numerous. I have called attention before to the fact that very few insects were sufficient to carry this disease, or to inoculate the trees, and so it would spread perhaps as fast were there no bees at all in the orchard. This statement is sustained, if I am rightly informed, by the actual experience of the pear-growers in the State.

The remedy that is found most effective so far is to practice very severe pruning with sterilized knives, cutting away every twig or branch as soon as any sign of the blight is seen. Of course, in all such cases it is well to burn the prunings as soon as possible. It is believed that the germs must be conveyed in a fluid, and so that the germs must generally be carried from tree in either nectar or in the bee-glue. In this last case bees, either wild or the honey-bee, may sow the seeds of the mischief. It is true that many wild bees do not gather the propolis or bee-glue, which the bees get in almost all cases from the buds of plants.

ACACIAS.

As is well known we get our beautiful Acacias from Australia. There are many species, as they run up into the hundreds. They interest us much, as they are very beautiful, both as to bloom and foliage—yes, and habit as well, and the wealth of yellow is wonderful to behold. One of the trees is peculiarly admirable; it is *Acacia baileyana*. The bloom and the foliage are alike attractive. I know of no more beautiful tree anywhere. But what interests us most, is the fact that the bees are very partial to these trees. I have noticed the bees thick on the bloom, and also visiting extra-floral glands as well. These are good for stimulative feeding as they come in February, and so will stimulate the bees to breed rapidly, and so the hives will be replete with bees as the orange-trees fling out their bloom and perfume a little later. We may well plant many of these Acacias. We are doing so in Claremont.

Claremont, Calif., March 14.

Bees Robbing in the Spring

BY G. M. DOOLITTLE.

A correspondent writes thus: "Will you please tell through the columns of the American Bee Journal, something about bees robbing colonies in the spring, how we can tell when colonies are being robbed, and what can be done to prevent it? I had nearly one-fourth of my colonies robbed out last spring in spite of all I could do."

After setting the bees from the cellar it sometimes happens, especially if the weather is very warm, that the first set out will commence to rob or carry off the stores of those set out last, which are so busy with their cleansing flight that they do not seem to notice the robbers. Robbing is not always confined to such colonies, but all weak colonies, whether wintered in the cellar or otherwise, and especially queenless colonies, are subject to attack in early spring, and I know of no one thing more vexatious to the apiarist than robbing. But how are we to tell when a colony is being robbed? is the question nearly always asked by the novice, and the answering of that question has often puzzled the bee-keeper of several years' experience, when he has almost been ready to decide that a colony from which the bees are seen running out and in with much commotion at the entrance, are robbing or being robbed, while later on he was obliged to admit that what he saw was nothing more than the colony having a general play-spell.

While to the experienced eye, robber-bees are generally quite easily distinguished, yet those just starting in bee-keeping are often perplexed to know whether the bees are being robbed or not, as young bees at play often resemble robbers. Robber-bees are generally so filled with honey that they are conspicuous for their size when leaving the hive; but a young bee taking its first flight is often just as conspicuous from the load of excrement it is anxious to void. Robber-bees often run up the sides of the hive or a long way out on the alighting-board before taking wing, and a young bee when taking its first flight, more often than otherwise, does the same thing.

Robber-bees turn with the head toward the entrance of the hive when taking wing, so as to mark where to come back for another load of honey, and the young bee on its first flight always turns thus with its head toward the entrance so as to mark its location, so it may always thereafter know just where home is. Thus we find robber-bees, and young bees on their first flight or play-spell, acting almost exactly alike. But if we look closely we shall see that these young bees are much lighter-colored than are the robber-bees, very many of which are dark and often shiny by having the fine hairs on the back of the abdomen all scraped or worn off by their many encounters in trying to enter other hives.

However, I know of but one sure way for inexperienced persons to tell when a colony of bees are being robbed, and that is by killing two or three of the mistrusted bees and dissecting them so as to expose the honey-sac. If this sac is empty there is nothing wrong, but if you find a bee leaving a hive with its sac full of honey, rest assured that robbing is going on, for bees in a normal condition should always be conveying honey to the hive, not from it.

Then another way of telling is to keep the entrance of any hive suspected of being robbed closed so that only a few bees can go in and out at a time, so that if robbing is going on, no large amount can be carried off in 4 or 5 hours; then look after such hives toward sunset, and if the commotion is still kept up about the entrance of these hives while the bees have quite generally settled down to where there are only a few flying, you can rest assured that such hives as have bees rushing in and out of the entrance thus late in the day, while the most of the rest of the colonies are becoming quiet, are being robbed, or are robbing other colonies. It is now quite easy to tell whether they are robbing or being robbed, for if robbing, as the air begins to get cool and heavy, the loaded bees will drop short of the entrance; while the hive that is being robbed will show many bees that are unable to take wing with their heavy loads on first trials.

Having found out that any colony is being robbed, what is to be done to save such a colony? This question has received very many answers which I will not attempt to give here. If you mistrust that only one or two colonies are at the work of robbing, sprinkle a little flour on the robber-bees as they go out from the colony being robbed with their loads of honey, having an assistant stand at the hives you suspect are doing the robbing, and if the returning bees are covered with flour, you are positively sure that you have found at least one of the colonies which is doing the stealing. If more than one is at work at this robbing, mark the strongest one, and as soon as darkness has stopped the flying of all bees, carry the colony that was being robbed and put it on the stand of the marked strong colony, and put this strong colony on the stand just occupied by the colony which was being robbed. Do this in the evening as soon as the bees stop flying. Don't allow yourself to think that you

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can do it in the morning just as well, for it often happens that the bees are out and at their work of stealing at the first signs of day, before you are up. Where it is so an exchange can thus be made, it is generally the means of stopping the whole trouble.

It is often very laughable to see the look of disgust that comes on the robber-bee after he has sallied out the next morning, leaving his hive without noting that it is not where it was, and then hurrying back into it with an air of "I'll soon be home with a load," only to find that she has gone back to the "wrong" hive; then come out again, look the whole situation over, and finally go and make her home with the colony she had been robbing all of the day before, because it is now where her old home was. Then where more than one hive had been doing the robbing, and a robber from the other hive comes after a load, she is seized so quickly by this strong colony that she shows a feeling of "good luck" when she gets away and returns home, satisfied not to try the thing again.

But it is not always that we are so fortunate as to find that only one colony is being robbed, for it is often our neighbors' bees that are concerned in this work, or we have a general mix-up of many colonies in the apiary. Where this is the case I know of no better way than, at nightfall, to carry the robbed colony or colonies into the cellar, and leave them there for a few days till pollen becomes plenty, or the bees mainly forget about this stealing affair, when, near sunset of some nice day they are to be set back on their own stand again, examined as to their strength in bees and stores, adjusting the entrance to suit the size of the colony, and reducing their stores by taking away combs of the same till they have only what you think they can reasonably protect, and shutting them on the combs you have allowed them by means of a dummy. In this way any colony that is of any value (alone) can be saved, and if too small as to numbers of bees to hold its own, then it should be united with another colony, doing this at this time, so that the bees when they have their flight the next day may mark their location anew, as they will always do after being a week in the cellar.

In closing, allow me to say that if we are careful to adjust the entrances to suit the size of all colonies just after their first flight in the spring, and take away all surplus of stores from all colonies which are few in bees, shutting them on the combs left, as I have above advised, we shall have very little trouble with robbing. Here, as elsewhere, in bee-keeping, "an ounce of prevention is worth a pound of cure." I especially recommend this prevention part to the correspondent, and all others who are not entirely familiar with this part of bee-keeping.

Report of the Worcester (Mass.) County Bee-Keepers' Convention

The March meeting of the Worcester County Bee-Keepers' Association was held at Horticultural Hall, in Worcester, on March 9, at 2 p. m. Dr. James P. Porter, of Clark University, gave an illustrated lecture on "The Bee: Its Nervous System and Sense Organs; Its Origin and Life." He spoke of the evolution of the bee from the solitary bee, through the one that lays its eggs and stays with the young till the eggs are hatched. The next advance is in a bee that makes provision in its underground nest for the draining off of moisture. The next higher in the group is that where the male and female pass the winter together in the same nest. The bumble-bee has irregular structure in the cells of its honey-comb, and then gradations up to the nest of the honey-bee in which every cell is regular, and there is a distinctness of order, care, and regularity about the hive. Division of labor in the hive now becomes prominent and necessary, not for the individual life and rights of the bee, but for the general benefit of the hive and the generations to come; and at this stage the hive has become somewhat of a machine.

Dr. Porter then went into the details of the nervous system, illustrating here especially with lantern slides, and comparing the large brain of the worker with its many duties; the medium one of the queen with the mere machine and purely animal function of egg-laying; while the drone with a very small brain, as after the fertilization of the queen the drone has nothing to do but die.

The next speaker was Mr. H. F. Cary, who spoke on wintering and spring increase of bees. He said that the optimum temperature for wintering in the cellar is 45 degrees, with a stove-pipe for ventilation, but not large enough to cause a draft into the hive. He advised an entrance to the hive ⅜ of an inch by 3 inches. Comparing those wintered inside with those left outside and carefully packed, he stated that those wintered in the house seemed to start in with more vigor than those left out, and got their brood started first; but he finds that on comparing them June 1st, that those left outside are stronger, and working better than the others. When wintering inside he advised keeping the bees contented in the early spring by cooling them. He also advised spring manipulation to begin about April 20. He then spoke upon his methods of rearing queens.

A. H. Estabrook, *Sec.*

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 336)

Pres. Dadant—We will now have the paper by Dr. E. F. Phillips, of Washington, D. C., on

WHAT SCIENCE CAN DO FOR BEE-KEEPING

Science is classified knowledge. In Apiculture observations can be made in infinite number, but until the facts discovered are systemized and classified very little advance can be made, and only with this classification does apiculture become an exact science.

By the majority of people science is looked on as something entirely apart from the practical. By most people a scientist is supposed to be a man who works on subjects which are of no practical use whatever. The criticism is heard on all sides that "book farming" is a failure, and that scientific men who attempt to write on practical industries do not know what they are talking about. In the first place we may as well admit that there is entirely too much truth in such criticism, but the fault lies not with science but with the men. Unless a scientist is willing and anxious to listen to what the practical man has to say, he can hardly expect to arrive at proper conclusions.

On the other hand, it is, to my mind, a serious mistake for the practical man to disregard what the scientist has to say. Scientific training fits a man to "put two and two together" and arrive at a conclusion. When a host of observations are made, not every one is qualified to study them and get at the bottom of the subject.

But for the fear of misunderstanding, let us confine ourselves to Apiculture, and see who are the scientists in that work.

In Apiculture the scientist is generally looked on as one who studies the anatomy of the bee, the effects of color on flight, or similar subjects of no practical importance. This is entirely and unqualifiedly an error. The man who analyzes the results of different methods of wintering, or the different ways of producing comb honey, is engaged in scientific work just as much as the man who works on anatomy, although he may not realize it.

Assuming then that scientific work is nothing but the systematizing of numerous observations, there can be no doubt in the mind of any one that Apiculture is sorely in need of more such work.

It must be admitted, however, that in speaking of scientific work in Apiculture the more or less theoretical problems are generally the ones to which reference is made. I shall, therefore, not speak so much of the need of scientific

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methods on problems conceded to be practical, as to discuss the practical import of questions now considered as merely theoretical by most bee-keepers.

At the Chicago meeting of this Association, I spoke at some length of the need of better bees. Here is one place where science can work untold wonders for Apiculture. Of recent years breeding has become a subject of very general discussion, and much scientific work has been done on variation and heredity, the ground-work of breeding. By continually selecting first-class breeding material a bee-keeper may improve his stock until he really has a superior line of bees. He cannot expect, however, to make progress which will be lasting unless he knows something about the hereditary transmission of characters, and the variations according to the laws of chance of all characters. The only way for a bee-keeper to become a breeder is by studying scientific works, and doing some work himself, and I regret to say that very few of our queen-rearers are doing this. Breeders in other lines of work are studying and working on these problems, and their results can be read by breeders of queens. Here science can help Apiculture.

As an example of what science can do for bee-keeping, take the work on bee-diseases. We know the causes of our two worst bee-diseases, and by comparisons (scientific method) we know what to do to destroy disease. Without scientific work on this subject the practical bee-keeper would be absolutely ignorant as to the nature of the different diseases, and cures would be mere accidents. As an example of the ineffectiveness of efforts of practical men in the face of a lack of scientific investigation we have only to cite the discussions of bee-paralysis, as it is called. A number of practical men, thoroughly competent from a practical standpoint, have undertaken to write on paralysis, and several cures have been advocated for this particular disease. No one can doubt, however, that we are still in ignorance of a universal cure and I am inclined to the opinion that we will remain in this state until the cause of the disease is determined by some one thoroughly trained in methods of scientific observation. In his book, "Bees and Bee-Keeping," Cheshire mentions a bacterium, *Bacillus gaytoni*, which he says causes the workers to become shiny; but this is no proof that *Bacillus gaytoni* causes paralysis.

Bee-Keeping would be benefited by work in various branches of science. Take, for example, work in chemistry. Those who have had anything to do with having samples of honey analyzed cannot fail to conclude that the work that has been done so far is entirely unsatisfactory, and that there is great need of better methods of honey analysis. The polariscope method is not reliable enough so that adulteration can be determined with certainty, because honeys from different sources differ so greatly in their polarization. The same condition is true to almost as great an extent, of wax-analysis.

While the bee-keeper must depend largely upon natural forage, the fact still remains that the industry would be greatly benefited by a careful study of honey-producing floras. We need to know the exact climatic and soil conditions necessary to the growth of all our honey-plants so that they produce nectar, for with such knowledge we would be able to make plantings of value. The exact geographical distribution of the honey-producing plants, and the marking out of the areas in which given plants secrete nectar, would help greatly.

The bee-keeper would be greatly benefited by better information as to the function of the bee in fertilizing flowers. At present it often happens that there are times when bees are looked on as very detrimental, but if the apiarist has an array of actual facts to present in place of the generalities now indulged in by the journals, it would have more weight with municipalities which try to banish bees, and in similar cases.

And now as to scientific work on the bees themselves: Those present may remember the bootless discussion in the bee-journals some time back as to whether bees pack pollen into cells with their heads. In the face of such discussions the question might well be asked why some one did not look. It was argued that the head of the bee is hard, and that it could pack pollen if it wished to; but the writers were content to argue, and not investigate, reminding one very forcibly of the academic discussions of the middle ages.

Properly constructed observation hives are of some value in such a case. Fortunately or otherwise, we have a few writers for apicultural papers who feel fully competent to cope with any subject connected with bees, but just how much weight we may give to their expressed opinions can be determined only when we find out how much observation they have made. Random discussions based on compilation of obsolete work are of meager value.

There are numerous facts concerning the habits of bees inside the hive which are highly important from a purely practical standpoint, which can be determined only by scientific observation. In spite of the fact that the bee-keepers have for years made observations concerning the swarming of bees, we still do not know just what it is that causes a swarm to issue. This is of paramount importance. Possibly some of these problems will forever foil the investigator, but it does not pay to be pessimistic.

We know that under certain conditions queen-cells are started, and we also know that there are some conditions under which the workers feed the royal larvæ better than others. By the use of the swarm-box we are able to produce these conditions of superior feeding so that the larvæ are fed as well as during preparation for swarming, but we still do not know why it is that this confinement produces the effect of the "swarming fever." If we could but analyze the swarming impulse we would, beyond all doubt, be able to devise vastly superior methods of queen-rearing. It need scarcely be pointed out, also, that a knowledge of swarming would enable us to devise methods to prevent that bane to the bee-keeper, and this would benefit many more bee-keepers than better methods of queen-rearing.

We need also but mention the desirability of knowing the methods used by bees in storing surplus honey. This is important. If honey is first deposited in the brood-chamber and then carried to the surplus chamber, then it is important that care be exercised in feeding sugar syrup, for under such circumstances any sugar syrup left from the feeding for winter or spring stimulation could possibly reach the super, and the bee-keeper be open to the charge of adulteration. If such is not the case sugar-feeding before supers are put on is justifiable; but this can be determined only by scientific investigation. The care of larvæ is an unknown factor in bee-life, as well as many other points which may have an exceedingly important bearing on practical work.

As far as the hearing of bees is concerned, we may be safe in saying that it matters little to the bee-keeper whether bees hear or not, but, still, almost every bee-man wants to know. No organ of hearing has yet been discovered, and the evidence that bees hear is extremely meager. In spite of this fact the majority of persons familiar with bees believe that bees do hear. The arguments generally advanced as proof of this are absolutely valueless, and we await impatiently a scientific investigation.

Not only will Apiculture be benefited by new scientific work on subjects relating directly to bees, but comparisons with results obtained in other fields will yield results of great value. Bee-keeping is not a science entirely apart from all others, but is most intimately connected with many sciences. For example, if we look at bee-keeping from the standpoint of breeding it becomes evident that it is not necessary that all the principles of bee-breeding be worked out on bees. From multitudes of results in such work it is evident that a few underlying principles are concerned in the improvement of a species, race, or variety, by selection; it matters not in the least to the bee-breeder whether these principles are discovered by work on bees. There are already scores and hundreds of papers detailing the methods used by the breeders of other species, and these papers await the persons who are to take up the one great problem of Apiculture. Improved appliances and manipulations are valuable, but their importance becomes infinitesimal when considered with the improvement of the bees themselves. The problem is so great that it is not to be wondered that it has not been undertaken systematically, but the day will come when it is begun, and then the results of other scientific breeders will be of inestimable value.

The second great problem which confronts American bee-keepers is the diseases to which bee-flesh is heir. Perhaps no one factor is so great a drawback to advance in Apiculture. The two virulent diseases of the brood are spreading through the States of the Union at a rate which is truly appalling, and heroic measures are necessary. I do not wish to become an alarmist, but

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during the past year I have traveled several thousand miles studying conditions of diseases and the rapidity of their spread, and I cannot refrain from saying that conditions are serious. The scientific work which has already been done on the subject is of very great value. We know that these two diseases—European foul brood and American foul brood—are of bacterial origin, and we know from scientific work on other bacteria that certain methods of treatment are necessary. The result is that with this work we now have reliable methods of treatment.

The control of diseases of animals and plants by inspection methods has been the object of a great deal of thought on the part of very competent men, and inspection is really a science. Horticultural and veterinarian inspection methods are well worth study by those interested in the extermination or control of brood-diseases, and for this purpose there will be a meeting of bee-disease inspectors in this city next Monday. How much good will result from such a meeting remains to be seen, but it is certainly a worthy object. Bee-keeping must be up-to-date in its methods of disease control, and to accomplish the maximum good our inspectors must work in the greatest harmony.

In addition to the direct good resulting from scientific work, great good results from the publication of scientific results in the stimulating effect which such work has on practical methods and discussions. As an example of this I need only refer once more to the work on bee-diseases. The recent work on this subject has given us a better insight into the causes of the two forms of foul brood, yet it must be confessed that these results are of minor value, since methods of control are not changed in the least. In spite of this the announcement of results and public discussions have stimulated the persons interested in disease work, and we now are in a better position to take up the practical question of ridding ourselves of these plagues.

Over and above all this, scientific work makes better bee-keepers, in that the more a man knows about bees the better bee-keeper he is, and the better man he is. We must not lose sight of the fact that a bee-keeper has some mission in life besides honey-production or queen-rearing, and increased knowledge adds infinitely to the pleasure of living. To add to the sum of human knowledge and to interest others in some new line of thought is fully as commendable as the production of something to tickle the palate. Let us, therefore, hail with delight any advance in our knowledge of bees. E. F. PHILLIPS.

(Continued next week.)

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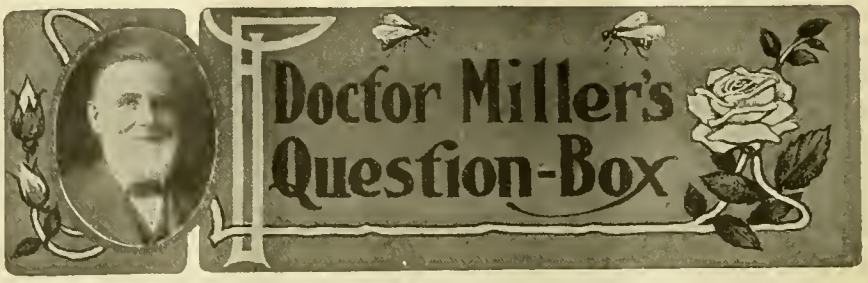

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Clipped Queens—Swarming—Yellowest Bees

1. I bought a queen last year and her wings were clipped. This spring they seemed to be grown out. Will they grow out, or was it a young queen?

2. Will bees swarm before any young queen is hatched?

3. Which strain of bees is most golden yellow? SUBSCRIBER.

ANSWERS.—1. No, a wing that is clipped never grows out again. One advantage of having a queen clipped, is that, as in the present case, you can tell when a young queen has taken her place.

2. A first swarm issues about 8 days before the first queen emerges. When an after-swarm issues, a young queen has already emerged, ready to go with the swarm, while one or more young queens still remain in the cell.

3. Probably Italians; although it may be that some Carniolans are equally yellow.

Management for Chunk Honey

I have a few colonies of bees that I wish to run for chunk honey; i. e., use extracting frames and supers and cut the comb honey out instead of extracting. Will it be necessary for me to use queen-excluders if I use full sheets of comb foundation in my frames? OHIO.

ANSWER.—That depends. With a small brood-chamber the queen is likely to go up; with a large brood-chamber she is not likely to trouble much in that way. In any case she is less likely to go up into an apartment filled with foundation than into one filled with old combs.

Management to Prevent Swarming—Transferring

1. I would like to put 2 old colonies of bees on one stand with space between for one young colony. Now, if I should take the 2 old colonies with old queens away to another stand a distance of 4 rods, will the field-force of worker-bees unite with the young queen left on the old stand, and work, or will they loaf?

2. Will this plan keep the old colonies from swarming?

3. When the old colonies are heavy with bees, by bringing them back to the old stand will it do to use the same plan again with another young colony?

4. Can I transfer a colony of bees by waiting until they swarm and putting the young swarm close beside the old colony, and then setting the old colony on the opposite side of the young colony every 6 or 7 days until the old colony is run out? or will the bees stay with the old colony when moved such a short distance? MICHIGAN.

ANSWERS.—They will unite and work.

2. Yes, at least for a time; but when they get strong enough they will be likely, if undisturbed, to swarm later.

3. Yes, if you remove the 2 colonies to a new place at any time, you may count on the field-force uniting with any colony left in their place.

4. It will probably not work as well as you expect. Each time you make the proposed change you will throw the field-force from the old hive to the new one; but at the same time you are likely to throw some of the field-force of the new hive into the old one. It will work better when making the second shift to set the old hive on top of the new one. But either plan will work fairly well, and 21 days after the issuing of the swarm you can drive out, or shake out, all the bees from the old hive and add them to the swarm.

Saving Bees from Spray-Poison—Honey-Adulteration—Superseding Old Queens

1. How can I best save my bees from being poisoned? I have an apple orchard of 30 acres. I spray for codling-moth as the blossoms are about to close and fall. I use arsenate of lead. Would you advise feeding for a few days with sugar syrup?

2. Will the pure-food laws prevent to a great extent the adulteration of honey with glucose?

3. Will a good colony supersede its worn-out queen, or is it not best to introduce a new queen at least every 3 years? OREGON.

ANSWERS.—1. Feeding with syrup would probably have little effect, for the bees prefer the blossoms. The easy way out is not to spray till the blossoms have fallen. That's the wiser course, anyhow, even if there were no bees in the case. The best authorities will tell you that it is an injury to the blossoms to spray while the stamens and pistils are still active. Neither is it at all neces-

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sary for the earlier portion of the blossoms. The codling-moth doesn't do any work on the blossoms, nor for some time after the blossom has fallen, depositing its eggs in the calyx end of the young fruit after the fruit is large enough for that purpose. No, don't spray fruit while in bloom.

2. Undoubtedly, if faithfully carried out.

3. Opinions are divided. It is possible that locality may have something to do in the case, as it has in so many other cases. In this locality it is as well to leave the matter to the bees generally, although it pays any time to supplant a poor queen with a good one, even if the poor one is only a month old.

Dividing Colonies for the Buckwheat Flow

I commenced bee-keeping five years ago, and through ignorance lost all but 2 colonies in the spring of 1905. I had 10 colonies last fall; lost one the past winter. I now have 9 of as strong, healthy colonies as I ever saw. They are literally running over with bees and have been busy bringing in pollen the last 2 days, which is remarkable for this latitude. We get our surplus from buckwheat August 1 to 20. When should I divide so as to have strong colonies for the buckwheat flow? PENNSYLVANIA.

ANSWER.—A phenomenally warm spell was on about the time of your writing, and if that had continued straight along, swarming and dividing would have come unusually early. But as it is, quite likely matters may be little if any earlier than usual. A very strong colony might be divided in fruit-bloom, but the generality will probably as well wait till the beginning of clover.

Removing Bees from Dwelling—Re-queening

1. I have 2 colonies of bees to take out of 2 different houses (dwellings). When is the best time to take them out, and what is the best way?

2. I wish to put a new queen with one ... how should I do this? ILLINOIS.

ANSWERS.—1. During fruit-bloom is a good time. Places are so different that one can tell the very best way only by seeing the place. In general, you can cut away enough of the wall to expose the combs, cut out the combs, fasten enough of them into frames to give the bees a good lodging-place, as you would in transferring, of course using smoke as needed, get all the bees into the hive, and unless you are going to take them a mile or more away it will be well to shut them in a dark cellar for 3 or 4 days so they will not get to the old place when they fly out.

2. You are not likely to be able to get a young queen before about the first of June, and printed instructions for introducing always come with the queen. If you want to pay the extra price for a tested queen, a good time to get it will be in fruit-bloom.

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Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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American Bee Journal

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Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

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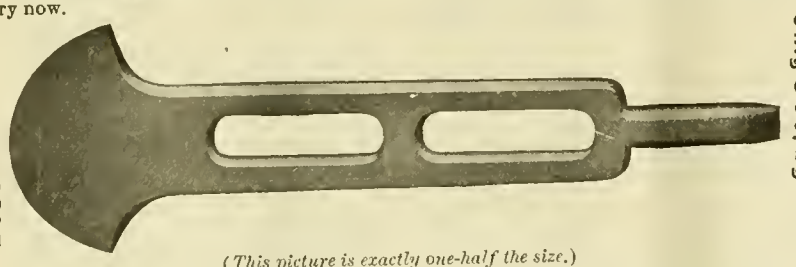

Only 30c, by mail

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American Bee Journal

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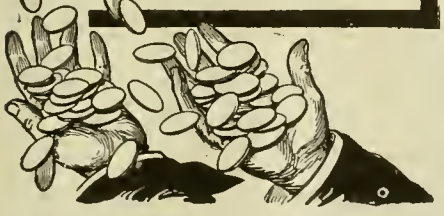

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No trouble to give estimates; tell us what you want.

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50	4 inch stove
Doctor—cheapest made to use	1.10	3½ "
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Large—lasts longer than any other	.90	2½ "
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That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen after June 1, $2.00

GEO. W. BARNES.
15A26t Box 349. Norwalk, Ohio.

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Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4.00
Tested	$1.00	" "	5.00
Selected tested	1.25	"	
Two-frame nuclei with untested queen			2.00

Orders filled in rotation. Send orders to

E. A. SIMMONS, Greenville, Ala.
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That depends whose name it is.

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Lewis Beeware is sold at consistent prices, and is the cheapest beeware because it is the best beeware. A season's trial will convince you.

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American Bee Journal

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Will be found in
The American Bee-Keeper for 1907

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Headquarters for Bee-Supplies

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Complete stock for 1907 now on hand.

FREIGHT-RATES FROM CINCINNATI are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for QUEENS bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, April 4.—Market is quite bare of best grades of comb honey. When sales are made it is on a basis of 15@17c, with very little outlet for the off-grades. Extracted, 7@8c; off grades, 6@6½c. Beeswax in good demand at 30@32c. R. A. BURNETT & Co.

CINCINNATI, April 16.—There is nothing new in the honey market, excepting that this part of the country is bare of comb honey, and it is well, for consumers will appreciate the new crop more when it arrives. We are selling extracted amber honey in barrels at from 5½@6½c. Fancy table honey, 8½c@9c, in crates of two 60-pound cans. For choice yellow beeswax, free from dirt, 32c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, April 10.—Owing to the cold weather, there has been quite a demand for comb honey in the last 10 days; quite a number of odd lots have been moved in this market, with not so many arrivals as heretofore. We quote: Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax, very firm, 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, April 12.—COMB HONEY.—There is very little doing; stock of white honey of all grades is practically cleaned up, and small shipments which arrive from time to time, find ready sale at 14@15c for choice white stock, and 12@13c for off grades. Considerable dark comb honey is left on the market, and there does not seem to be any demand whatsoever. We quote nominally at 10@11c, but in large lots we doubt whether this price can be realized. EXTRACTED HONEY.—California stock seems to be well cleaned up, and we are informed that there is very little left on the Coast, and, before the new crop is marketed, whatever is on the market now will have been consumed. The prospects in California are very good for a large crop, but nothing definite can be said at this time, and there is no surety of a big crop until it is actually gathered. Last season the outlook was just as good, but in the height of the season, cold northern winds and generally contrary weather affected the crop to such an extent that it was as small as in previous years. With favorable weather in California for the next two months a large crop will undoubtedly be harvested, and if so prices will naturally be considerably lower than those of the past season and present prices. We quote white sage at from 7@9c, and light amber at from 7@7½c. Near-by, as well as Southern honey, is well cleaned up, and the markets are in good shape for new crop. Cuban and other West Indian honeys are arriving in large quantities, most of which are sold for export. The market is firm, at from 58@60c per gallon, duty paid according to quality. Beeswax firm and steady at from 30@31c.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mar. 30—The demand for comb honey is light, as also are the receipts. The market is about bare of extracted. We quote: No. 1 white comb, 24 sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 28c.
C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2, selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax 32c, delivered here. C. H. W. WEBER.

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We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.
MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.
THE FRED. W. MUTH CO.,
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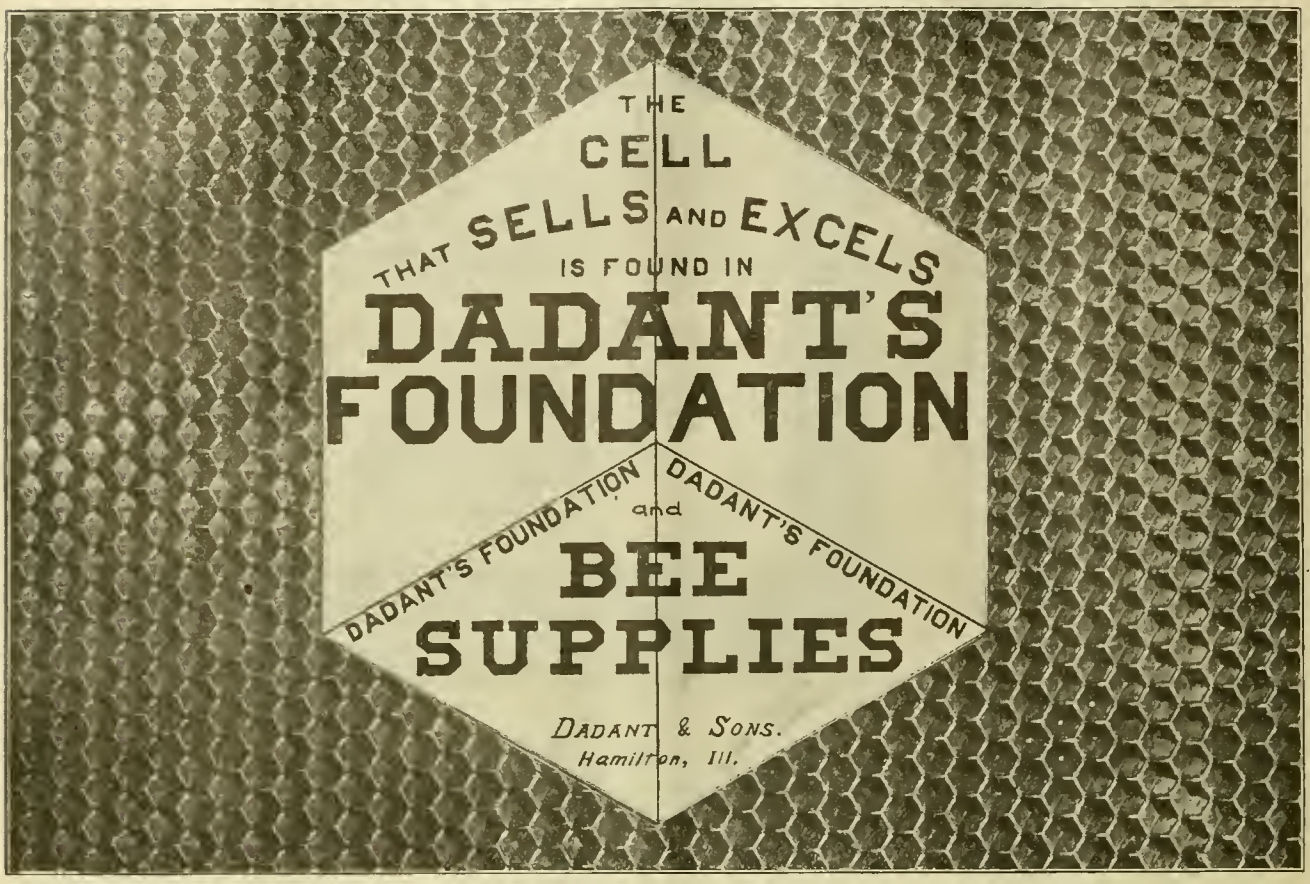
American Bee Journal



Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago, there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

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MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

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MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S. S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phoenix
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobeli, Glenwood.

47th Year MAY 2, 1907 Number 18

AMERICAN BEE JOURNAL

CHAS. M. DARROW AND FAMILY.
(See page 370)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

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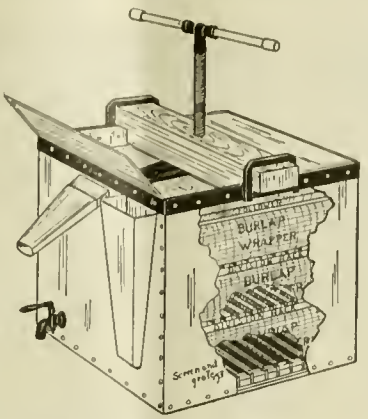

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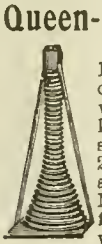

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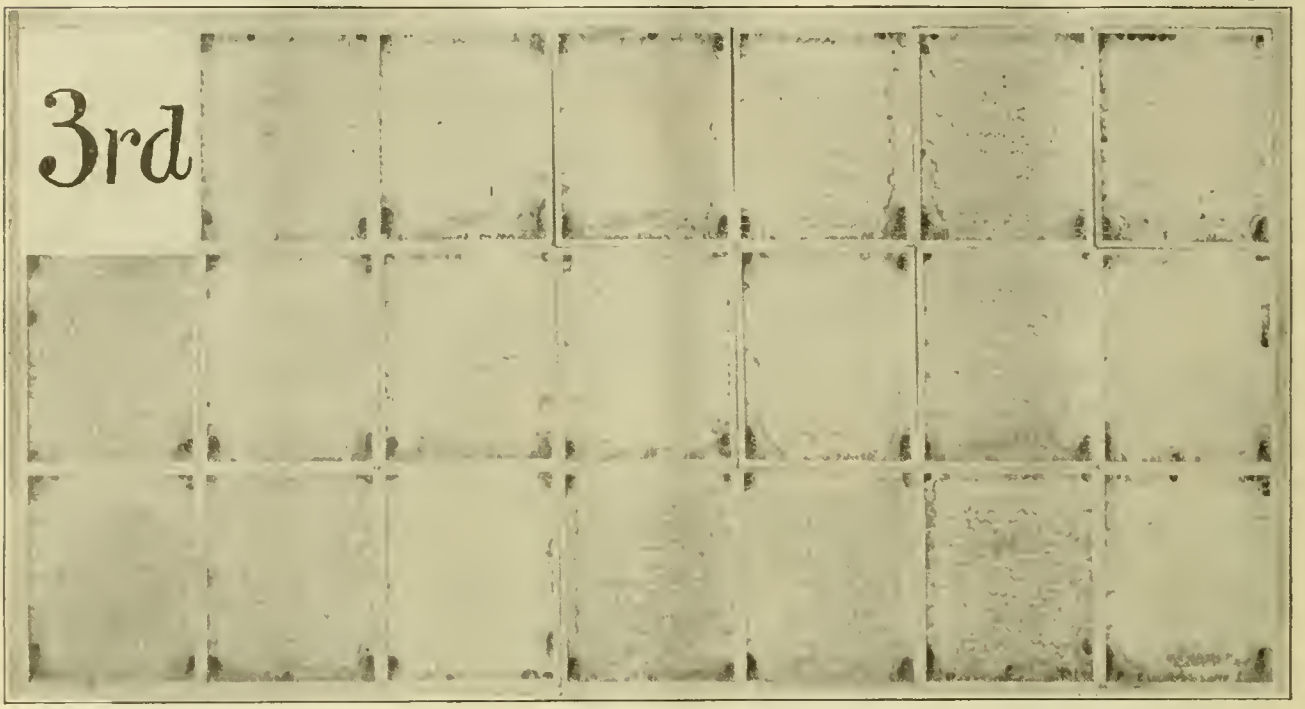

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GEORGE W. YORK, Editor | CHICAGO, ILL., MAY 2, 1907 | Vol. XLVII—No. 18

Spring Protection of Bees

The editor of the Bee-Keepers' Review is quite enthusiastic about protecting bees in spring by wrapping the hives with tarred felt. If N. E. France is correct in saying that a colony protected by tarred paper will have double as much brood as an unprotected one when warm weather comes, it may well be worth while to make trial of such protection. Although the protection should be given immediately when the bees are taken from the cellar, there are still some cold days due for many this spring.

One may make a jumbling job of fastening on the covering, and Editor Hutchinson gives what seems to be an excellent way in the following:

The usual method of putting on the felt is to fold it down over the hive and fasten it by tacking a strip of thin wood along the lower edge on each side of the hive, but I have tried a plan that I like better, viz., that of tying it on, putting a piece of wool twine, or some course twine, around the hive in two places and drawing it up as tightly as possible, then tying it. The only difficulty with this method of fastening on the paper, is to keep it in place while the strings are being put on and tied. Ordinarily it would require the services of two or three persons, but I hit upon a scheme whereby one man can do the act easily.

The felt is a yard wide. Cut it off in lengths just long enough to reach over the top of the hive and down each side to the bottom. Then cut out pieces just the size of the end of the hive. The piece that is to go in front of the hive should be cut on a slight circle on one edge, and this edge turned down so as to leave a place open at the bottom for an entrance. To hold the paper in place while it is being tied, I tacked a block to the side of the top-bar of a brood-frame (of course, any stick will answer) at each end. I had the blocks at such a distance apart that when the felt had been folded over the hive, as one would fold paper over a package that was being done up, these blocks would just nicely slip over the end of the hive. Then by pressing one end of the stick up, and the other down, any amount of pressure could be brought to bear—enough so that the stick would remain in place and hold the felt in place while it was being tied.

I made two of these sticks with blocks nailed on, one for each end of the hive. Lay the large piece of felt over the top of the hive, set the end-piece up against the end of the hive, place the knee upon the top of the hive, fold down the felt around one end exactly as you would fold paper in doing up a package, put on the stick to hold it in place, turn to the other end of the hive and serve it the same. Have the strings cut off the right length, put one around, draw it up tight, tie it, then put on another string in the same way down near the bottom of the hive, remove the sticks, and the work is done.

Five cents worth of tarred felt will cover a hive, and with this method of putting it on there is not much likelihood of its being injured, and it can be piled away and saved to use another spring.

Using Combs on Which Bees Died

"Can combs on which bees have died during winter be given to healthy bees in the spring?" is a question that arises annually, and is answered thus in Gleanings in Bee-Culture:

Every year about this time a good many inquire whether it would be safe to put live bees on combs from which bees have died. We should have no hesitation whatever if they are not badly soiled with dysentery stains; and there would be no danger even then after settled warm weather comes on. Even if the stores were so inferior as to be responsible for the death of the colony during winter, such stores would probably do no harm to bees that are permitted to have a flight one or two days in a week in early spring. Combs very badly soiled with dysentery should be set aside and not used until the bees can fly every day; and even then we would not give more than one to a colony at a time. If they are well sealed and badly spotted with dysentery, a bee-brush dipped in water should be used to clean them up before giving them to the bees.

Why are Bottom-Starters Necessary?

This question is raised by the editor of the Bee-Keepers' Review in the following paragraph:

Bottom-starters are favored by a few bee-keepers; and I will say this: If you can't get the combs firmly attached to the bottom-bars without the use of bottom-starters, then use them by all means. I have no use for them. As I have said before, no man by looking at my finished sections could tell which side up they "grew." I would like to visit some bee-keeper who can't succeed without bottom-starters, and see his sections before he gives them to the bees—see them as he gives them when trying to succeed without bottom-starters. If the section is not filled full, of course the comb may not be attached at the bottom—I would not expect that it would. If it is filled full *why* don't the bees attach the comb all around? They do with me and with hundreds of bee-keepers that I have visited.

In the absence of anything authoritative on the subject, it may do no harm to make a tentative answer to Mr. Hutchinson's "why." There are some who believe in having their bees somewhat crowded in supers, and bees thus crowded will, other things being equal, fill out sections more plumply, fastening them well to sides and bottoms. If you want to see outside cells next the wood filled and sealed, allow only one or two supers of sections to a strong colony in a heavy honey-flow, so that the supers will be literally crammed with bees. You may, however, overdo the business, compelling the bees to build a lot of bur-combs between the sections.

Others, however, think that the advantages gained by thus crowding are offset by disadvantages. They think there is a loss in having bees so crowded that all can not have room and to spare at their work, especially if the crowding reach the point where the bees turn part of their honey into clumps of white wax to be practically wasted. Another thing is, that some desire to have just as many colonies as possible go through the season without making any attempt to swarm, and to favor this the bees must have abundant room, and with this abundant room in the supers some sections will not be well built down without the persuasive influence of bottom-starters.

Mr. Hutchinson's advice is good: If you

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can not have sections well built down without bottom-starters, by all means use them; if you don't need them, you may as well save the trouble and expense.

Drifting or Mixing of Bees

To prevent the drifting or mixing of bees when taken from cellar, whereby a large number go to a few hives depleting others, and sometimes resulting in the death of queens in the over-populated colonies, it has been recommended to contract the hive-entrance immediately on taking the bees out of the cellar. Confirmatory of this view is the following from E. D. Townsend in the Bee-Keepers' Review:

"If the entrance is contracted so that only a few bees can fly at a time, it helps to keep them flying at a more moderate rate. We sometimes throw a shovel full of sand into the entrance, then, with a small stick, make an opening at one corner so that only a few bees can fly at a time. This certainly helps to keep them from mixing. I am sure the whole secret lies in so managing that only a few bees fly at a time. In other words, so manage that the strong colonies are not allowed to show their extra strength in flying force, and with the entrances contracted the strong colonies can not throw out a force much, if any, stronger than the weak or moderately strong colonies. It seems that with this first mad rush for a flight the bees forget all about marking their location. They seem to get started to entering a few hives, then a great share of the bees in the air are attracted to these few hives, with the result that these few colonies get the lion's share of the flying force."

Miscellaneous News-Items

Removal Notice

By the time this number of the American Bee Journal is in the hands of its readers, we will have moved into our new and larger quarters, on the 8th floor of the "Electrical Building," at *118 W. Jackson Boulevard*—about a half-mile west of where we have been located the past 3 years. Our correspondents will kindly notice this change in our street address when writing us, and when in Chicago come and see us in our new place of business. GEORGE W. YORK & Co.

The National Association continues to grow, there being at this writing 2327 members. Only 173 needed to make the 2500. If not a member, why not send a dollar now to General Manager, N. E. France, Platteville, Wis.? It would be a nice thing to have a membership 2500 strong by the time of the next annual meeting next fall. We understand the exact time and place will be decided in a few days.

The Family and Apiary of Chas. M. Darrow, of Milo, Mo., are shown this week. Mr. D. wrote as follows, April 20:

Referring to the picture of myself and family, I will say that we are all good honey-eaters. The largest boy, "Willie," was initiated into beedom when only a small baby. As myself and wife were returning home with a wagon-load of bees I had purchased, he was stung on the neck, but as soon as I removed the stinger he turned over and went to sleep. Then when he was nearly 2 years old, he and a cousin went out to the bee-yard, and he took a piece of iron and beat on the hive with it. My wife heard him cry, and carried him to the house, and we must have removed 200 stingers from him, all over his body, but mostly in his hair. It made him very sick for a few days. He has had a few stings since, but is not afraid of bees.

The little chap standing before me is "Theodore;" he has been stung only a few times, but will probably have more experience in that line, as he is not afraid to go anywhere among the bees.

The little girl, "Myrtle," is very fond of bees. I think she will follow in her father's footsteps, and be a queen-breeder, as she always asks to see the queen. She has been stung only a few times, and she walks among the bees quite often to see what is being done there.

It was windy when the picture was taken, and so we had to strike for tall timber, as will be seen.

The other photograph represents myself and part of my home apiary and nucleus yard, looking northwest. The public road is in the background, with a cornfield still further back. The pole in the background is a telephone pole by the roadside. There were 40 or 45 colonies in this yard, used chiefly for queen-rearing, although it furnished quite a quantity of honey last May and June, which was mostly used in queen-rearing later on. We had no fall flow.

The third colony shown on the right has one of my fruit-jar feeders; this is the most convenient feeder I ever had, and can be used when others can't.

The nucleus yard contained 113 nuclei, each with 4 frames 5¾x8½ inches. As I never ship (or remove queens otherwise) under 4 days' laying (and usually not under 5 to 10 days), the nuclei are overstocked with brood at all times. Having Italianized fully 90 per-cent of the neighboring bees within 3 or 4 miles of my yard, I get pure mating with very few exceptions.

The bricks on these little nucleus hive-covers not only hold the covers securely, but make exact queen-records by reversing the sides, turning lengthwise or crosswise of the nucleus, or standing on edge. With wife as my assistant (mostly in correspondence), I do the work alone. I also work 2 out-yards.

CHAS. M. DARROW.

PARTIAL VIEW OF NUCLEUS YARD AND APIARY OF CHAS. M. DARROW.

Maeterlinck's Bee-Foolishness.—Not often is a new work received with higher words of praise than was Maeterlinck's work on the bee. Men thoroughly familiar with the literature of bee-keeping gave it unqualified praise, its brilliant style apparently dazzling their eyes so that they could not see the grave faults it contained. It is hardly possible, however, that brilliancy of style will be sufficient to blind the eyes of any but the utterly uninformed to the glaring errors contained in the following:

MAETERLINCK ON THE INTELLIGENCE OF THE BEE.

It would be easy, without appealing to any prehistoric event, to bring together a large number of facts that would show that the faculty of adaptation and intelligent progress is not reserved exclusively for the human race.

Transported to Australia or California, our black bee completely alters her habits. After one or two years, finding that summer is perpetual and flowers forever abundant, she will live from day to day, content to gather the honey and pollen indispensable for the day's consumption; and, her recent and thoughtful observation triumphing over hereditary experience, she will cease to make provision for her winter. Buchner mentions an analogous fact, which also proves the bees' adaptation to circumstances, not slow, secular, unconscious and fatal, but immediate and intelligent: in Barbados, the bees whose hives are in the midst of the refineries, where they find sugar in plenty during the whole year, will entirely abandon their visits to the flowers.—Harper's for March.

It is the old floating fragment of folly that went the rounds of the press years ago, and has been refuted time and time again. In a matter of such remarkable change in the deportment of bees, why could not Maeterlinck have informed himself as to the truth or the falsity of the matter before committing t

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wings of the press such an egregious blunder? There are plenty of bee-keepers in Australia and California who could have told him the truth. Indeed, the very fact that there are still bee-keepers in those countries shows the monstrosity of the statement, or else bee-keepers in Australia and California must be great fools to give their time to the care of bees which "cease to make provision for winter." No doubt some of those men who throw upon the market 50,000 to 100,000 pounds of honey in a single season will smile at the idea that their bees "live from day to day, content to gather the honey and pollen indispensable for the day's consumption."

Possibly some one may say, "But it's the *black* bee of which Mr. Maeterlinck speaks." Well, there are still enough black bees left in Australia, and surely Mr. Macterlinck does not want us to think that the Italian is more lacking in intelligence than her black sister.

Neither would it be a difficult thing for our writer of the charming manner to inform himself with regard to bees in Barbados, and he would probably find that even in that sugary island bees still pay some attention to flowers. And if "the bees' adaptation to circumstances" is so "immediate and intelligent," perhaps Mr. Maeterlinck will tell us why, when bees see that their visits to refineries are so fatal, their immediate and intelligent adaptation to circumstances does not lead to immediate and intelligent avoidance of such places.

Conducted by EMMA M. WILSON, Marengo, Ill.

Another Defense of Black Bees

I felt that I wanted to shake hands with Mr. Macdonald, of Banff, when I read his defense of the black bee. Partly that was from pure "clannishness," and partly it was from a fellow-feeling, which, as you all know, makes us "wondrous kind."

So your favorite bees have not been receiving, as it seems to you, justice! Neither have mine, Mr. Macdonald, and I predict that I will yet successfully wield, or else break, a lance in defense of the beautiful "gray bees of Carniola." But such is not my purpose now, but to see if I can offer you a little comfort.

You complain that American bee-keepers write as if the blacks were a useless and effete race. You should read W. Z. Hutchinson's latest "Advanced Bee Culture." Mr. Hutchinson starts one chapter of his really excellent book with the statement, "There are only two varieties of bees worthy of consideration for use in the United States; in fact, they are about the only varieties now left here for consideration, and they are the Italians and the Germans or blacks, as they are commonly called." There is much more in the chapter commendatory of the black bees, and *Mr. Hutchinson is one of our leaders*, Mr. Macdonald.

Further, if you read our bee-papers you will see every once in a while where some one uses the black bee as the "little leaven" that "leaveneth the whole lump."

While I have quoted you Hutchinson, I would not like to leave the impression that I swallow that statement as truth. It is a matter of astonishment to me that Mr. Hutchinson could make a sweeping assertion like that. I can hardly hold myself, here and now, from giving facts and figures in disproof of it. But the error is so manifest that there is no need. To mention just one fact: A single queen-breeder in the United States told me he sent out last season 3000 Carniolan queens, and judging of the future from the past, there would be a call for 5000 this season. Then there are the new candidates for favor—the gentle Caucasians and the "Banats." Mr. Macdonald says that while he has consistently upheld the good points he has found in blacks, he has at the same time shown charity to Carniolans and Italians. That is the right attitude, I think, and it makes me think of Mr. Benton's bulletin. When I read that I said, "Mr. Benton likes *them all.*" With a climate ranging from the cold of Canada to the warmth of Florida and Mexico, I don't see why there is not room for all in North America, and it is quite within belief that the best bee for me *here* is not the best for a very different climate. I have been a bee-keeper for nearly 15 years. For 12 years I have had Carniolans as well as Italians, and they survive with me because of Nature's law—the "survival of the fittest."

Mr. Benton had this to say of the blacks, Mr. Macdonald:

"The same care and skill applied in the selection of breeding stock would result in as great improvement in this as in any of the more attractive yellow races."

Small doubt of it the black bee did not have fair play when people brimstoned the colonies that gave promise of yielding the heaviest spoils. Improve your blacks all you can, Mr. Macdonald, and I promise you that if I ever go to Banff, I will hunt you up and see for myself what the black bees can do for one who appreciates them.

(MRS.) A. L. AMOS.

Custer Co., Nebr.

Honey-Cakes or Honey-Ginger Bread

We read in Holy Scripture that the manna with which the Hebrew people were fed in the wilderness during 40 years, was according to the taste of everybody and was like to "flour with honey." One naturally regrets that the recipe of such a good thing should not have been handed down to us. However, the bee-keeper may easily have something similar, for flour and honey, which are the substance of the heavenly pattern, are the only necessary constituents of honey-cakes, and these the bee-keeper may always have.

It is a mistake to think that buckwheat honey is required, as has been stated in some bee-papers. I make use of best clover honey without any difficulty. Honey-cakes, if properly made, may be said also to be according to everybody's taste, and are sometimes more useful than pure honey itself, for, strange enough, there are some persons who are unable to bear the taste of honey in its natural form, whilst I have not seen any one who would not relish honey-cakes; I know even some to whom the doctor has forbidden the use of sweets, and on whom honey-cakes produce a good effect.

From personal experience I am of the opinion that honey-cakes would advantageously take the place of many drugs, and are much to be recommended to sick persons who suffer from a weak stomach, or who have but little appetite, for being so light, and at the same time so highly substantial, they are easily digested without fatiguing the patient. One never gets weary of eating them day after day, as is often the case with pure honey. These advantages are enough to wish that the way of making them should be known in every bee-keeper's home.

Honey-cakes should not be eaten hurriedly, but allowed a sufficient time to ooze away, so to say, in the mouth. When newly made they are very light and dry. Some will find them too dry, but they will improve with age, and, if left in the open, will quickly absorb moisture which will make them soft.

Now, the following is the way to proceed in making them: I generally take 40 or 50 pounds of honey at a time, and as much flour, so that they may last for many months. But for the sake of beginners I must give lower figures. Take then 3 pounds honey, 3 pounds flour, ½ ounce powdered ammonia, a small teaspoonful of ground cinnamon, ½ teaspoonful of ground cloves, and 6 ounces of orange peel cut very small. The three last-mentioned ingredients are not essential, but they improve the taste. Ammonia is necessary. To those who would object to it, I may explain that it does not remain in the cake, but evaporates during the baking process, its function being to raise the dough.

DIRECTIONS.—Pour the honey in a copper or enamelled pan, and set on a stove or quick fire. When it boils, draw it aside and remove the scum.

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Then pour the honey into the vessel in which the paste is to be made; leave it to cool; then add flour and mix it up well. This is the remote preparation, and the paste may be left in that condition for weeks and months without fear of deterioration. The proximate preparation is made on the day on which the cake is baked, and consists in adding the other ingredients, when the paste is worked thoroughly up again. The ammonia must first be placed in a cup, pour on it a few drops of cold water and stir it well, so as to form a thick paste, then mix it up with the rest. Then take a piece of the paste, roll it out into a cake not over ¼ inch thick, and cut up into convenient sizes as desired. This done, put the cakes on a flat tin (which must be greased beforehand) and bake from 12 to 15 minutes in a hot oven.—Br. Columban, St. Mary's Abbey, Buckfast, Devon, England.

Bees Wintered Well—Remedy for Bee-Sting Poisoning

On Nov. 20, 1906, we put 87 colonies of bees into our bee-cellar. They wintered well. On March 25, 1907, we set out one colony, the thermometer showing 70 degrees. We set out the rest by moonlight that evening. The next day they had a good flight, although the east wind was a little rough, but at 5 p.m. the thermometer showed 70. Although the last 3 days of March were very rough, cold, and windy, yesterday the bees brought in pollen. The one colony set out on the 25th brought in pollen shortly after being put out.

On page 93 is given a remedy for bee-sting poisoning. Will the writer please tell us how to use this remedy, and what quantity to use? Bee-sting poison has had at different times a severe effect on me, and caused terrible agony and distress, therefore to know a remedy would be greatly appreciated.

Mary Theilmann.

Theilman, Minn., April 3.

By W. A. Pryal, Alden Station, Oakland, Calif.

A Swarm of Bees at School

The little episode of the "thawed out" Berkeley bees reminds me of the time the principal of the Hawthorne School, San Francisco, had with a swarm of bees that came from Principal Prior's apiary. The latter's school is in South San Francisco, while his residence adjoined the Hawthorne School. One day Prof. Prior's bees swarmed and lit on a small tree in the school-yard next door. The children became frantic. They were not used to seeing "bees at school." The lady principal did not know what to do, but she thought it well to ring up some of the city officials. The Fire Department was called upon the scene to quench the fiery bees; the Health Department to allay any poison the bees might inject into the pupils; and, I believe, the Pound Department was sent for to lasso the bees and put 'em in the lock-up with the "bad dogs."

It was a comic mix-up all around, but no harm was done after all.

The Bees at Berkeley

A big laugh has gone up about the Berkeley bees. The daily papers of Oakland and San Francisco were full of it. It came about in this way. But first let me remark that the story reminds me of the child's story of "Mary Had a Little Lamb," or especially that portion which recites that "it made the children laugh and play to see a lamb at school."

Prof. C. W. Woodworth, the head of the entomological department, was going to tell his class "how doth the busy bee." But the hour was not a sunshiny one on this late March day—a day just after the long, wet spell. Live bees were required to elucidate the subject—I was going to remark, to *enliven* the subject, and that was about the way of it, anyway.

Well, the bees did not wake up to the fact that they were to be real good bees for this auspicious and educative occasion; they were required to step about a bit lively. They could kind of number them. A happy idea seemed to strike the dignified Professor; he would put some "ginger" into the observation-hive full of bees. So the hive was placed near a stove in the lecture-room.

The class was assembled, and as a merry hum passed through the lads and misses at the fount of knowledge, another hum started up in the hive. The bees began to wake up; they began to step about pretty likely; in fact, they became very animated. They got out of the hive; they were no respecters of persons; the Professor and students, it was rumored, were attacked by the bees with ginger in them. There was a hot time in the class-room. The "co-eds" screamed; the male students would have fought, but there was no general to lead 'em in the fray. The bees were getting the best of the assemblage when Ralph Benton (the papers got his name as Button) was called in to bring order out of chaos, and did. So great is the name of "Benton" in the "Land of Berkeley," as former Gov. Pardee used to write it in one of his parodies when he was a student at that University. Benton met the bees and smote 'em wing and sting, and no lance, sword, javelin nor sting had he. But the bees made the children scream and scamper "to see a bee at school."

Alfilarela—A Rich Nectar Secreter

I had written somewhat at length of this plant a score of years ago. It is still one of our very best early honey-producers. Some call it "pin-weed." When the rains come early we find it in bloom rather sparingly in December. All through April and May it is abundant; I may state that it is about the most common weed we have, and makes an excellent forage for neat cattle. The flowers are rather small, and mostly of a sickly-pink color. This year I have what I believe is a new variety here on our place. It is thrifty as to growth, and the flowers are pure white. I am going to propagate it that I may have quite a showing of the plants. Mr. J. S. Harbison, in his "Bee-Keepers' Directory," page 172, states:

"This plant yields large quantities of pollen for about 3 months, commencing in March and ending in June."

Had Mr. H. pursued his investigations a little further during the pioneer days of bee-culture in California, he would have found that this plant was a rich honey-secreter, and that in moist places it grew and thrived the year around. Like the geranium, it seems to be a part of California. I believe I should have been tempted to have called it the "State Flower," if the choice had been left to me, instead of the Escholtzia, or golden orange California poppy—the gorgeous flower of hill and plain. Though the latter is plentiful in patches, it is not to be found everywhere about as the alfilarela is. Well, long may they both wave. Here, in passing, I may mention that the California poppy is visited by the bees; it is a veritable store-house for pollen. I never saw any nectar in its gorgeous chalice-like flowers.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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No. 3—Things to Do, and Why

Management During the Harvest—Value of Early Nuclei

BY R. C. AIKIN.

Having told how to manage to obtain the largest number of bees ready for the harvest, also how to control swarming to the same time, next is the management during the flow. It is one thing to handle our bees previous to the harvest, but quite a different thing during the harvest flow and in the natural-swarm season when we have the greatest number of factors to contend with.

But the management depends upon several things, as whether comb or extracted is to be produced; whether the flow comes in a pile or is strung out over a considerable period of time; whether continuous or intermittent; and whether there is a second or later harvest season. That is, there are several things to consider, but they must be taken into account, and yet I have not enumerated all the things to be remembered.

Here we have but little gathering of anything up to about June 15, when the first crop of alfalfa begins to yield; this is expected to last from 2 to 3 weeks. Following this comes sweet clover, and the second crop of alfalfa, though I seldom get much out of the latter. Sometimes there is a gap of a week or 10 days between these flows when only a dribbling flow comes in which will not do anything toward super-work, and sometimes because of varying conditions of weather and season the two flows meet, or nearly so. This second flow is likely to be the best of the two, and the one that will give us the most surplus, so I must plan to have a good force of bees to work it.

The first flow coming in during the last half of June the brood-combs will be heavily loaded with honey to the exclusion of brood. Eggs laid during this time—last half of June and first half of July—are the August workers, and as my flow from sweet clover lasts usually till August 20 to 25, I must keep the queens doing business the *full limit* during the first flow.

It often happens that the first flow is so light and tedious that the tendency is very much intensified to clog the brood-combs to the exclusion of brood, thus cutting off my supply of fielders for the sweet clover, the last of July and most of August. This late flow is likely to last from 3 to 4 weeks. A slow flow is worse to crowd out the queen than a quick one. Such also intensifies the swarming fever. A rapid, sharp flow in which the colony will fill all empty comb in the brood-chamber and put up from one to 3, and even 4 or more supers, often so takes up the energies of the colony that they seem to forget about swarming—they are oo busy, and there is such a rush of wax-work and comb-building that there is little chance for swarming. But we cannot depend upon this, for sometimes a colony will get so excited with a sudden rush of honey that they will swarm even without waiting to build cells. It's the excitement, and they rush around and do many peculiar things.

Those colonies that were made 2-story before the flow came must now immediately be reduced to one chamber for the brood, and super-room given—one, two or more supers as the strength of the colony and flow demands. If you are to have but this one flow, with a dearth to follow, then it matters little about breeding, so give your whole attention to making the most of the flow. The queen may be caged, or what is better, take her away with the chamber that has the least of brood and honey in it, and let the other chamber with its honey and brood remain on the old stand; but be sure there are no queen-cells in it. The other hive put on a new stand with the queen, being robbed of fielders will not swarm; those on the old stand cannot for lack of a queen until they have reared one. Ten days later—or between the eighth and eleventh days—go through the old colony and cut out all but one of the best cells, and in leaving a cell choose not the ripest but one less matured; the riper ones were from older larvæ, and may not be so good.

The foregoing plan puts all the super-work on the old stand where you have no queen, and you can rest as easy as an old shoe, for all you have to do is to cut out those cells save one, and manipulate supers to get best results. In adding supers, unless you are confident that the fresh one will surely be filled better, put it on top of the others until they *are* filled. When a super is filled so that all that remains to do is some sealing and finishing, then it should be *over the fresh one;* but up to that time the colony should be made to work up through the unfinished ones to reach the new one. If you raise a super too soon the finish will be much poorer, and the weight scant; you may even fail to get anything finished.

When the young queen gets to laying in the old colony, if at this time there is still nectar coming in, even though but slowly, super-work will go on, for the honey will be moved up from the brood-chamber to make room for the brood-nest below. If, however, your honey season is all over, you have made a hundred percent increase, and it remains for you to arrange that matter to suit your notion. If no increase is wanted, lift the old hive at the old stand, and set on the chamber that was set aside earlier, and put on top of it the old colony with the new queen, making a 2-story colony for winter, the operation to be repeated the next year. Hunt out and kill the old queen before uniting, or make whatever use of her you wish.

But some of the young queens will fail at mating time, and so there will be some of the old ones queenless; in such cases leave the old queen with her colony when uniting. If you adopt the plan of doubling back, of course you should not take the old queen far away at the time of dividing—keep her near enough to facilitate the uniting. One ought, however, to make some increase, for there are always some losses to replace. If increase is wanted, do not unite.

But suppose you have a second flow, or even a long-continued flow. In either case this management is good—I call it the most up-to-date, profitable plan. The old queen being put off aside from the old stand, and having few fielders, will get a chance to lay unmolested; she will get double, quadruple, or more, brood than if left on the old stand with a horde of fielders chucking in nectar. It will not be long until she not only has a hive full of brood, but the brood taken with her and hatching out makes a strong colony. For your late flow these old queens on the new stand can be given supers and they will surely surprise you with the amount of honey they put up, and that with little or no swarming. My estimate is that where other management will give a 50-pound surplus this will give a 75-pound one.

In the production of extracted honey these principles may be applied by other plans, as by tiering up all on the old stand; but even for extracted it is best to separate, giving the old queen a new stand *if there be a later flow.* Even if that later flow be but a light or slow one, if there is anything to be gathered a large force will get more than a small one.

I spoke in a previous article of making early nuclei where conditions were such that one could do it. If you have done so, and had queens laying with the beginning of the flow, I want to tell you that such colonies will build more comb and gather more honey in proportion to the number of bees engaged in the work than any other condition. More than this, these make the very best of colonies for winter. Then, too, if there be an August or September flow they often put up quite a little surplus, and no bother about swarming. This nucleus plan is the very best way to make one's increase, counting on these for the permanent stock, in the main; this leaves you free to make the most of the old colonies for honey. A colony worked hard for honey is not so good for winter—better depend upon the old ones for honey, sacrificing many of them entire for the crop, and replace them with these nuclei.

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Many of our apiarists recommend methods of management that will do away with increase, preferring to have just so many colonies, and no more. No doubt in many cases that is a very desirable thing, in some ways, yet I doubt if it is profitable except in very few cases—that is, the most profitable. I believe a little more invested in supplies, and some increase made temporarily, will prove more profitable both in the amount of honey obtained and in facilitating management. It has always been my contention that the apiarist must be the master to the extent of controlling swarming, and making increase, when he was ready; that those who allow natural swarming are always at a disadvantage. Dividing for increase can be made just as much of a success as natural swarming, so far as the question of getting colonies is concerned; and it can be made much more satisfactory in that you do really become master, and fix things as you want them. You cannot make the seasons to insure a proper filling of the hives with stores, no matter what method of increase is used, but you can make the increase yourself, and when and how you want it, being in control yourself, and not driven about at the call of a swarm that you never know its time. The mating and time of casting young in almost every other of domestic animals we control; why not in the bee-family?

Have a few extra hives for increase. These hives do not represent any great outlay to start with, and once the investment is made it is permanent, and needs no addition for many years to come. But on the other hand, if you try to get along with just the scantiest stock of supplies, you add cost in the matter of labor which is a continual expense, year by year, until you have soon paid out the value of all necessary hives several times over.

A few bees taken from each strong colony and made into a nucleus before your main flow will not materially injure the parent colony, and this nucleus may be made into the very best colony for winter. Those old ones run hard for honey, often come to the fall in a weakened condition; that is, the brood-nest is so clogged with honey that but few bees can be reared, and the colony goes into winter with too few young bees. In natural conditions it often happens that many colonies perish in winter just because of this condition. Let me illustrate by an experience:

Once a neighbor asked me to come and see what was the matter with a colony of bees he had. The hive was heavy and yet the colony seemed weak and would not swarm. I found the hive simply full of honey, bur-combs built, and every possible place filled with honey, and just a few square inches of brood in two little spots in the 2 center combs, and this at midsummer, too. That colony had no place to breed and would have been a weak colony throughout the season so far as sufficient forces for honey-storing were concerned—could never by the most possible coaxing been induced to work in a super.

You want honey; and when you have reared the massive colonies, and the harvest time has arrived, work those bees for honey; work them all they are worth, centralizing their efforts for that one thing—*honey*. In our factories men are made to stick to one thing, on the principle that it is more profitable to have a specialist for this and another for that, because a jack-of-all-trades is master of none. This principle is just as true of a colony of bees. The man who tries to make every colony store some surplus, and every one do its share of all the other things that bees can and are supposed to do, is making each and every one a jack-of-all and master of none, and does so at a financial loss.

Select those colonies that are to store your honey, and make that their specialty, that you may get all there is to be had in surplus, and in the best possible shape, even taking almost their entire stores for surplus by some method of contraction or other route, even to the extermination of the colony, if need be. Make other colonies work for those colonies that are to be your next year's working colonies.

Loveland, Colo.

No. 4—Feeding and Feeders —Hive-Body Feeding

BY C. P. DADANT

Feeding *in the body* of the hive is practiced in several ways. Some apiarists lift out 2 or 3 body-frames, that contain only the dry comb, and pour liquid food into the cells. At first sight this might be considered as the easiest way of feeding, until one has given it a trial. You very quickly ascertain that this pouring of a liquid into the cells is not as practicable as might be imagined. Even clear water is put into the cells with difficulty, because of the small size of the cells. The capillary attraction that holds the drops together causes the liquid to cover the tops of the cells instead of soaking into them. But a certain quantity liquid food may be inserted in the cells with careful pouring and some jarring. This method will never be much practiced, because in addition to the trouble it gives in getting the liquid down into the cells, it necessitates the opening of the hive twice—first to get the combs, and afterwards to insert them back in the hive. During these manipulations there is loss of heat and danger of robbing. The manipulation may be reduced to a single opening of the colony if we have spare combs in sufficient quantity before the feeding is begun, for we then are enabled simply to make the exchange of a comb of feed for one dry comb removed.

The supplying of heavy combs of honey from over-fat colonies to the needy ones, by exchange, is a good practice. But as these combs of honey are usually sealed, if we wish to incite breeding, it will be well to uncap a part of the cells, for bees are very parsimonious when it becomes necessary to uncap honey. They seem unwilling to do so, and do it probably with as much regret as the provident housekeeper who finds herself compelled to remove her last jar of fruit-preserves out of the cellar for use, when several months are yet to elapse before a supply of fresh fruit may be obtained for the table, which she has been regularly supplying.

Some European apiarists use an outside feeder which reaches the brood-chamber through a hole made opposite the center of the brood at about the middle of the height of the brood-chamber. This has the advantage over the bottom-feeder that it is in much closer proximity to the brood, and on a level with it, so that even in unpleasant weather the bees may visit it. The only objection is the hole which has to be bored through the outer wall to connect the body with this food supply.

A very good body-feeder is the Doolittle feeder. It consists of a frame made the exact size of the brood-frames, though sometimes a little wider, and enclosed on both sides by thin boards which change the frame into a deep box, with openings at the top. The feed is poured into this, and the frame is inserted at the most convenient part of the brood-chamber. The lumber used must be rough on the inside, so that the bees may readily climb in and out. Even with this help they sometimes have difficulty in climbing out, and we have found it necessary to place a float on the feed that is given, so the hurrying bees may not drown in it and find their numbers diminished by the very thing which is intended to help increase the colony.

A thin slat, or a couple of cleats, nailed together so the bees may crawl between them at will, should be dropped into this feeder. Some careful apiarists drive two tacks at each end of the underside of this float, so that it may be held off the bottom when the feeder is emptied by the bees. In this way the little workers are enabled to suck up the very last drop of liquid, from under the float.

The life of our bees is of the utmost importance at all times, but it is the more so at the time of breeding, when all the efforts of the colony are turned towards obtaining the means of rearing large quantities of brood. To be sure, the importance of warmth in the brood-nest is greater in some seasons than in others, for there are seasons when the colony comes out of winter with a strong force, while in others it has to struggle for weeks before it recuperates its winter losses. But we may set it down as a rule that food must be given in a way that will cause neither loss of bees nor loss of heat. In seasons when the colony is strong at the opening of spring, feeding is rarely necessary, and seldom practiced. Therefore, when we find it advisable to feed, the conditions of warmth and economy of life are imperative and indispensable to success.

Hamilton, Ill.

A "Badger" Bee-Keeper in Texas

BY C. A. HATCH.

It would be presumption on my part even to say that I know much about bee-keeping in Texas, for I have spent only a few months here and have had only one colony of bees to take obser-

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vations from. But in the same way that a mariner may study the chart to learn where the rocks and shoals are before going on shipboard to put his knowledge to actual use, so I may look for the rocks and shoals of bee-keeping here in the most southern part of Uncle Sam's domain. To any one at the North as he sits before the grate of glowing coals on some zero day and reads of the flowers and 80-degree weather here, it seems as if there is the bee-man's paradise; but the All-wise Creator gave us the law of compensation, by which no part of His children can have any great advantage over another, for what is gained in one way is made up in loss elsewhere.

As far as flora goes, this country is nearly all that could be desired—thousands of acres of mesquite, catclaw, chaparal, and prickly pear, and no bees. But this is a land of drouths and excessive rainfall; the heat of summer close onto the cold of winter; and if there is any country that can show more insects of the pestiferous kind, it has not been my lot to learn of it.

The Southern Seasons.

The seasons are so variable here that a bee-keeper would be put to his wits to know whether to encourage breeding or to withhold stimulating. When I tell you that the season this year is almost 6 weeks earlier than last year, you may appreciate the situation. Suppose an apiarist starts his bees on a last year's season, he would bring them up to full strength 6 weeks too late. And how are we to know this in advance? And how are we to prepare for one of those fierce "northers" when the thermometer falls from 80 degrees above down to almost freezing in 2 hours? How would such a change affect a hive full of young larvæ? One thing is sure, the queen has to commence operations much sooner than at North, with the mesquite in bloom in March. February 1st would not be too soon for "her majesty" to be doing her best, and I am told that February is usually the coldest month of the year here.

Ants the Worst.

Of all the insect pests I ever had any experience with, this one, lauded by Solomon, is the worst. "Take the wings of the morning" and go anywhere you will, the ant is there before you, and ready for business; not only one variety, but many—and all of them are stingers. Even little ones, almost microscopic, can pierce our tough skin and inflict a painful wound. If there is any kind of food they are not fond of from sour to sweet, salt to bitter, greasy or otherwise, it has not been shown to this deponent. The only way food can be kept from them is to put it on tables whose legs stand in cans of water, and woe unto you if a chair, a cloth, or any other thing can be turned into a bridge by them. They are seemingly always there and ready to take advantage of it. The only way one can be sure of his bees is to isolate each hive by standing it on legs surrounded by water.

The ant worst to fight is almost too small to notice, yet he is a terror. Not that he cares much for honey, although he will take it if nothing better offers; but he goes right into the hive and drags out the young larvæ. One man near here started with 5 or 6 colonies and these little fellows destroyed them all, but left the honey. What can the poor bees do with anything so small that one of their feet would cover—too small to sting and too quick to bite, and in a stinging contest I am not sure but the ant would come out the best?

Ants are the greatest menace to horticulture as well as bee-culture. One species called "trimmers" works at night, but they are easier to exterminate than the small ones, for their nests are easily found, and boiling water or "High Life" will soon fix them; whereas to exterminate the small ones would mean to treat the whole landscape, for their name is legion, and they are too small to fight by such an awkward animal as man.

But in spite of ants, weather, and all other adverse conditions, bees do thrive in Texas, and the wide-awake bee-keeper gets his reward, so if any reader thinks of going to a warmer country and taking his bees along, I would be only too happy to help him to locate in a good territory.

C. A. Hatch.

Nueces Co., Tex., April 4.

[Mr. Hatch spent the past winter in Texas, but is now again in his Wisconsin home.—Editor.]

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 358)

Mr. France—I dislike being the first to speak on a paper of so much value, which has covered a vast amount of ground; it is something that I hope, when you get the Report, you may study by sections. I have repeatedly asked for something of this nature to be done, as is expected to be done here on Monday, and I hope all will try to attend. The subject of bee-diseases will be nicely presented. I don't know that there is any definite part that I care to take up personally in discussing. It seems to me that Dr. Phillips has covered the ground.

Mr. Victor—I would like to ask if they have ever discovered that bees hear?

Dr. Phillips—I do know that bees are very sensitive, but I don't know absolutely if they hear.

Dr. Bohrer—I was once driving nails 5 or 6 feet from a hive of bees, and the first thing I knew I was covered with bees, and they must have gotten the vibration from the ground.

Mr. Rouse—Why does a swarm in the air attract other swarms?

Dr. Phillips—Bees secrete a light-colored fluid in swarming, and by this they attract each other; there is a very strong odor in the air, and the bees can smell it.

Mr. Rouse—Can they smell?

Dr. Phillips—There is no doubt that they smell.

Mr. Anderson—There is one point that meets with my convictions, and that is the improvement of stock we were discussing here yesterday—whether bees could be improved—and I believe they can in all the different strains.

J. Q. Smith—If bees can not hear, why do queens pipe, and upon their piping the other queens answer? The pipings are of different sounds. The first queen has a clear sound, and the one about to get out of the cell has a coarser voice.

Mr. Stone—I can not be made to believe that bees can not hear. Why can't they hear as well with some of their organs as we do with our teeth?

Dr. Phillips—We don't hear with our teeth.

Mr. Stone—Some ladies and a little girl were traveling on the train with me. The little girl asked if bees could hear with their ears, and I said they had no ears. She said they hear "just the same as I do with my teeth;" and the mother of the little girl said that she knew of people that held their mouths open to hear better.

Mr. Rouse—I have worked in steam mills and if I wanted to know that the piston was working properly I would put a stick on the cylinder end, then on my teeth, and I could hear very distinctly. I don't know what caused it.

Mr. Holekamp—I don't know whether it is worth while to talk about this much more. I certainly can hear from the inside of my mouth much better than on the outside.

Dr. Bohrer—There is one thing that I wish to speak of that was mentioned last night. Dr. Phillips did not hear it; he is in charge of the Government Apiaries at Washington, and through him a number of queens were sent out to be tested. I don't think that we can recommend to him too strongly the matter of refusing to give any man a queen to test her and her progeny, unless those bees are sufficiently isolated from other bees. I would just say, "My dear sir, I will give you a queen, but you must separate your bees 12 to 15 miles, the farther the better." There is dan-

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ger 12 miles, but I don't know about 15. We have had our Italian bees injured by the introduction of Cyprian blood. If these bees can be placed in the hands of careful men, that is all right. I am sorry Italian bees in different localities have not been improved. Forty years ago I found the bees better dispositioned than to-day. In the State of Indiana I could open a hive without a protection on my face, but I don't find it so in the State of Kansas where I live. I never go to a hive without my face and hands well protected. I wanted to speak of this to the Doctor, for I know there is harm being done by not having the bees sufficiently apart from each other.

Dr. Phillips—Perhaps I would better explain it, since the Doctor has taken exception. In the first place the Bureau of Entomology is the only organization that is improving bees, and we are the only people that import Caucasian queens. I do know that what we have sent out are good, reliable Caucasian queens. As to putting them in isolated places, it is absolutely impossible. Any person that has tried knows that it is absolutely impossible to find places 20 miles apart to keep queens. I was asked to do something that I can not do; neither can I go to see every man that writes for queens. We can not send to people who are good queen-rearers. The distribution of queens has been stopped, and will be for all time, if I have my say about it. I don't think the Bureau has any business giving away queens, and I have recommended that it be stopped.

W. H. Laws—I want to thank Dr. Bohrer for his painstaking advice to the queen-breeders; we need the older heads to keep us straight. The Carniolans, Holy Lands and Cyprians have been imported and spread broadcast over the country, and I think that some of these races I have named have created more injury than the Caucasian race, and in some cases they have proven very valuable.

Dr. Bohrer—I want to make one more suggestion, and that is to secure some place like Kelly's Island.

Mr. Stone—As far as I am concerned, I don't feel any danger in the introduction of this bee, or any other kind of bee. I feel toward them like I do toward my farm crops. When I introduce a particular kind of potato or grain of any kind I think of them just like my bees. If I have introduced Italian bees and they are better they will eventually run out the others that are no good; they will eventually come to the top, just like oil will come to the top of water.

Mr. Anderson—I have received queens from Dr. Phillips, and I have one queen that Dr. Phillips sent me that I would not take $50 for today. I don't consider this stock would injure the Italians.

NEXT PLACE OF MEETING.

Pres. Dadant—It is customary for those, who wish to have the place of meeting selected for next year, to make a proposal of the place, which is passed on afterwards by the Executive Committee. There has already been a place proposed, not only for next meeting, but for the following meeting, and I would like to hear from you. Our General Manager has some correspondence on the subject.

Mr. France—The bee-keepers, especially the members of our Association, feel that the cost is great, but the good they get is great, and they would like to see this convention moved about. Invitations to different places have come in. We had to drop the invitation from Minnesota and come to Texas this year. Minnesota has renewed her invitation for the future. There will be at Jamestown, Va., next summer, and continue until the early fall, an anniversary of the Jamestown Settlement, and there are here letters from the Pennsylvania bee-keepers and their neighbors, that we meet at one of those respective places. Then there is also one from Michigan; they feel that that part of the United States is entitled to the next meeting.

Pres. Dadant—I would like to hear from the bee-keepers, if they have a place selected. The meetings have been held west of the Mississippi River, and it is time we were going East.

Mr. Coggshall—I would suggest that we go to Virginia. I think that would be a good place. We have come West a number of times, and we would like to meet in the East.

Mr. Holekamp—It seems that the Jamestown people's invitation should be accepted.

Dr. Bohrer—I don't know; there are a good many bee-keepers in Virginia, and a good many in Pennsylvania, and a good many in New York, and they should be favored with a meeting of this kind. I don't think this would be a discredit to the bee-keepers there, nor we a discredit to them. I have never been in Jamestown, Va., and I think we could have a whole lot of fun there. I attend these meetings for the fun, and I have had a good deal of it here.

Mr. York—All we can do is to recommend that the places be considered by the Committee.

Pres. Dadant—I want to impress upon your minds that it is important that we should go where there are bee-keepers, and if they are not in numbers it will make a poor meeting. Now the Norfolk, Va., people want us there, because they want us to see the town. If these bee-keepers want us, it is all right.

Mr. Holekamp—Would it not be better to let this be undecided, and give it a little more time? Maybe those Minneapolis people would come in and invite us there.

Mr. York—I don't think that we should consider an invitation from the West for next year; we should go East, as Mr. Coggshall says.

Mr. Coggshall—You might come to Philadelphia or Harrisburg.

Mr. France—This will finally have to be left with the Executive Board. Your suggestions are good, but, remember, we can not decide here. This meeting was to have been held here last year, but when the cry of yellow fever broke out in the South it seemed best to meet elsewhere. I doubt very much if the meeting will be held at Jamestown. On account of excursion rates some of the larger cities will obtain the meeting, but I am in favor of the meeting being held in the East.

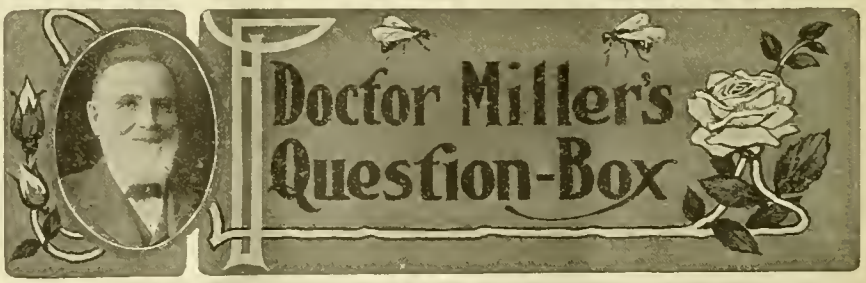
Mr. Victor—I think this Association should meet East of the Mississippi River, and that it be left to the discretion of the Executive Committee, without recommending any special place, except to meet east of the Mississippi River.

President—Have we a second for the motion?

Mr. Coggshall—I second the motion.

Pres. Dadant—It is the sentiment of this meeting that when you vote, that we desire the meeting held east of the Mississippi River. The motion is carried.

(Continued next week.)



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Introducing Queens—Building Up Colonies

1. I have 2 colonies that have no queens, so I am going to send for some. How shall I introduce them? I have just started in bee-keeping.

2. My colonies are very light. How can I get them strong? MINNESOTA.

ANSWERS.—1. In probably all cases, those who ship queens send with them instructions for introducing, and you are expected to follow those instructions. Generally they are that you are to put the cage in the hive, between the frames or over the top-bars, where they will be sure to be well surrounded. The old queen is to be removed at the time the new one is to be put in, and the bees are to eat the candy to liberate the queen. Some prefer to have the new

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queen in the hive 2 or 3 days before the old one is removed, according to the advising of Rev. E. T. Abbott, the bees not being allowed to get at the candy till the old queen is removed.

2. That's a good deal like saying, "My calf is very small, tell me how to make it big." Of course, you're to let the calf have all it can eat and let it grow. And you're to let a weak colony have all it can eat and let it grow. Be sure that in each hive there is all the honey the bees need—*and more*. In that respect the colony is different from the calf; if you feed the calf more than it can eat, the food will be wasted, and you may hurt the calf by overfeeding. The bees will not waste any extra feed given them, and they will build up faster with a good lot of honey in sight than if they have only enough to keep them going from day to day. Of course, you must not do anything to make the bees cold, such as leaving a cover loose or making too large an entrance. You might try the Alexander plan of putting a very weak colony over a very strong one, doing the work quietly so as not to stir up the bees, and having an excluder between the 2 colonies; but if you have no strong colonies you can't do that.

Queen-Excluders and Comb Honey Production

1. Is it really necessary to put a honey-board between the brood-frames of the newly-hived swarm and the super of partly-filled sections taken from the old colony?

2. Is it usual for the queen to go up into the super to lay unless she is prevented by the use of a honey-board?

NEW YORK.

ANSWERS.—1. If the super is put over the swarm immediately after it is hived, there is danger that the queen will go up into the super unless a queen-excluder—or a honey-board, as you call it—is used. But there is no need to put the super on so soon. Let it remain on the old hive until a brood-nest has been established in the brood-chamber, and then put it on. So the general practice is to put the super over the swarm 2 or 3 days after the swarm has been hived.

2. Some have trouble with the queen going up, and some have no trouble. If sections have starters only, and there is little or no drone-comb in the brood-chamber, the bees will build drone-comb in the sections and the queen will lay in them; and when she has made a start there she will not stop with the drone-comb but will fill the sections. For many years I have produced sections without queen-excluders, and not one section in a thousand is troubled with brood; but the sections have been entirely filled with foundation.

Curing Rheumatism with Bee-Stings

A lady in my neighborhod has had rheumatism in the ankle of her right foot for several years. She has tried many remedies, and all failed. I advised her to try bee-stings, so she has tried it twice, each time 15 bees stinging about the ankle. The first time I applied the bees. The stings relieved her, but later she got very sick, although a week later she asked me to try again, with worse results. She thinks the bee-stings would cure her rheumatism, but is afraid they might poison her system.

I had inflammatory rheumatism for 4 months in my left leg, and after a doctor gave up, 15 bee-stings cured me with one operation. Would you advise us to keep on with only a few bees at a time? PENNSYLVANIA.

ANSWER.—Yes, I would try it again with a smaller number, repeating the operation many times at intervals of a day or more. I don't believe she need be afraid of the poison in her system. Thousands of bee-keepers have been stung enough to show bad effects if there were any, but they're a pretty healthy lot.

Danzenbaker Hive and System

1. Is the Danzenbaker hive as good as any for comb honey?

2. I have a small book, "The Danzenbaker Hive System." Is it safe to follow?

3. Are the Danzenbaker brood-frames deep enough for bees to winter well?

ANSWERS.—1. Some are enthusiastic over it; some condemn it severely. After a limited experience with it, I still prefer the regular 8-frame dovetailed hive.

2. If I am not mistaken, that booklet was written by the inventor of the hive, and so should be exactly adapted to it.

3. Yes, except in the colder regions of the North it is all right for outdoor wintering, and in the colder places cellars are used anyhow. Even in the coldest localities, for outdoor wintering one could use 2 stories for very strong colonies, and that would make it a deep hive.

Questions on Topics Found in "Forty Years Among the Bees"

I have read your "Forty Years Among the Bees," and re-read parts of it several times, especially on queen-rearing, and may have to read it several times more before I become an expert. I have taken some notes as I went along and may have to ask you some questions; not however, with a view of intimating that my way is better than yours, but merely to get your opinion of mine.

1. You speak of tags on your hives. I have my hives numbered. Will not this take the place of tags? Or, do you change the tags every year?

2. In regard to depending upon clipped queens for out-apiaries, if the clipped queen is lost when she comes out, and the swarm returns, will they not swarm again when the first young queen is hatched?

3. In speaking of self-spacing frames by nails, I have used them but thought that too tinkering. You object to side frame-spacing, alleging that the frames will become so glued up that they will not occupy the same space again. I don't care if they don't. I don't generally use a dummy the second time, and allow the frames to spread a little after the frames are built, thinking the bees will not draw out the cells any after they are once finished. Am I right?

4. You speak of wetting sections before putting them together. I never found that necessary. I keep mine in the cellar and find them damp enough.

5. On page 168, "Giving a nucleus to a swarm," etc., what advantage is there over giving a hive with frames of foundation, or starters, with its own queen?

6. You seem to take frames out of a hive and put them into another to clean my hives and lift them off the bottom-board. Is not this preferable?

7. Page 237. Having your breeding-queen in a 2-frame nucleus, you take away one of the combs and put in its place a frame with 2 small starters (Fig. 86). A week later you will have a comb built in it well filled with eggs (Fig. 88). This is then taken away and another of the same kind given, and this will furnish such an egg-filled frame once a week. Then for every such a one taken away, I must make a colony queenless. Having 2 of this kind in 2 queenless colonies, you clip off a little of the outside of these; why is this? I thought the younger the brood, the better the queens.

8. As I understand, you now place these hives back to back. How is this one frame a week older than the other? To get them back, I must lift them from their stands and take them to a new place. Won't they incline to go back to their old stands? And as they have been used to come in from the same direction, won't they go into the hive that is set in that direction? Of course they will be conscious of their queenlessness as I made them so to receive these frames. Now, am I not getting two plans mixed? When I have got my prepared comb into a queenless colony, what more do I need? It strikes me that is where you want to rear queens by the quantity.

9. I tried making nuclei in one hive, but the bees all wanted to come in from the one side.

10. In making 2 or more nuclei in one hive, is it necessary that there be no passage from one apartment to the other by the workers, either at top or bottom?

11. I have always been at a loss to know how to keep queens when I have them reared till I wanted them. If a queen is caged, is it necessary that there be worker-bees with her, or if her cage is between combs will outside bees feed her?

12. I believe you told me once that you caught the worker-bees one at a time and put them into the cage with the queen. Is there a particular way to take hold of a worker to avoid getting a sting?

13. You use splints in fastening foundation in frames. Where do you get them?

14. You give directions for making cages to protect queen-cells. Did you ever use the spiral queen-cell protec-

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tors? I suppose you have seen them. Are they not a success?

15. There is a man living in this city who says he kept bees in Ohio years ago, and that he had hundreds of queens fertilized in confinement, and he told me how he did it. It is very simple. He used a barrel; took one head out of it; then had that covered with something that would not admit light. Then he made a hole in the other end about 3 inches in diameter and covered it with a glass on the inside. Then he made another hole near this large enough to introduce the queen and drones. Then he stopped this up. The queen and drones would collect at this glass. The other end was covered by glass. The covering of this glass was quickly removed and in the dash for this light the drone would meet the queen. Before the large glass was uncovered the small one was darkened. I told him fertilization in confinement was talked of 40 years ago, but was abandoned to-day as impracticable, but he claimed it had been practicable with him. He is not in the business now, but is a practising physician. IOWA.

ANSWERS.—It is perhaps not to be regretted that bee-keepers do not all think alike. If a beginner should take for his model the best bee-keeper in the world and blindly follow in his footsteps, he would not come out so well as to do some thinking for himself. Even a beginner, too, may sometimes think up something that, at least for his conditions, may be an improvement over the plans of the veterans, and I feel pretty sure that from a man of your experience I could learn something, even if it is worth while for you to ask questions.

1. It depends something upon plans whether it is better to have numbers on hives permanent or movable. If each hive is to keep the same location always, it is better to have the numbers painted on the hives. But that sort of numbering wouldn't suit my plans very well. The hive that stands at the beginning of the first row in the home apiary is No. 1. But I may, for some reason, change that hive to some other place, and then the number must be changed to fit the *place*. That, you will see, makes the changing of numbers a necessity. This spring, for instance, for the sake of the drones—because queen-rearing is done in the home-apiary—I kept at home any colonies which distinguished themselves in the out-apiary last year. The numbers of course had to be changed, and it is an easy thing to pull off one tin tag and put on another. If you find no necessity for changing numbers, you are rather to be congratulated. For sometimes—indeed much oftener than is pleasant—tags get lost; and sometimes when one is hurried the tags are not changed for some time when hives are changed. Indeed, at this present writing, a lot of tags on my hives have not been changed that need changing. I'm not proud of it, and I'm not advising others to be so shiftless.

2. Almost certainly, if left to themselves. It's "up to you" to see that they don't.

3. I have had a few cases in which a dummy has been left out at the side, and the bees lengthened out the cells until they came within ¼ inch of the hive-wall. Unless your bees are better trained than mine they are likely to do the same thing.

4. Yes, I have done the same thing, and I have also received sections that needed no wetting when received. If only 2 or 3 sections in a box should break, I wouldn't wet them.

5. The plan you mention, which is the shake-swarm plan, leaves the colony constantly diminishing in numbers for 21 days, for not a young bee will emerge till the end of that time. The nucleus I give has at least 2 or 3 frames of brood, and sometimes can hardly be called a nucleus, having from 3 to 5 frames of brood. Indeed, in some cases it is about as strong as the colony removed. Possibly you may say, "If you leave the old colony in full strength, it will swarm again. Why will it not swarm if another colony of equal strength is put in its place?" I suppose the reason is that a young queen is present, and the brood is different from what it was in the colony that had been swarming. At any rate I never had one swarm. (As a postscript I may add that the new queen has no swarming fever, and the old one has.)

6. Yes, if bottoms are loose, and you want to clean off only the bottom. If you want to clean out rabbets, the other way is better. Or, if bottoms are stapled on, it may be easier to change hives than staples.

7. That "younger the brood the better the queen" business may be carried too far. No better queen can be reared from an egg just laid than from a larva a day or 2 old, and the larva has the advantage that it will be 4 or 5 days in advance of the freshly-laid egg. The bees seem to understand this, and they would not start any cells on the edge of the comb that contains only eggs, and as that part of the comb is in the way, I trim it off so the cells will be started on the edge, where the bees like it best, and where it suits me best to cut off cells.

8. Yes, you have things somewhat mixed; I hardly know why, but it doesn't matter. I wouldn't advise you to use that plan unless you are rearing queens by the hundred, and I'm sorry I didn't say so in the book. I don't use it myself when I rear queens only for my own use, which I have always done with the exception of one year. You are quite right; if you get your prepared queen into a queenless colony that's all you need, and generally some colony will be queenless in an apiary of any size. If not, you can make any colony queenless long enough to start a batch of cells.

9. I hardly know why you should have trouble. If the nucleus-hive is put on a new stand, and the bees imprisoned for 1 to 3 days, each nucleus ought to mark its own entrance.

10. It is absolutely necessary that no bee can get through from one side to the other at top, bottom, or anywhere else except by going outdoors through the entrance.

11. Better have no workers in the cage with her. Sometimes the bees will not find her, but you can provision the cage with candy and then the queen is independent.

12. Look for a bee with its head in a cell taking a lunch. It is partly bent so its wings project in the most convenient manner, and you can easily take the wings between thumb and finger. But unless to ship a queen, I don't know of any need ever to put workers in a cage.

13. Supply manufacturers make them to order.

14. The West cell-protectors are all right.

15. If you have any faith in it, try it, and then tell the rest of us of your success.

Queen-Rearing and Swarming

1. Does the plan of opening a hive shortly before swarming time and destroying the queen-cells necessitate the devotion of one colony to queen-rearing, to supply the demand for young laying queens to be put back 8 days later? Or can some of the queen-cells taken from the colony be utilized? If so, how?

2. Why not, at the time of opening the hive and removing the old queen, save one of the best cells that will hatch in a few days—say 5? Would not this queen, upon arriving home from her mating trip, destroy all queen-cells in the colony? Would it prevent swarming? MICHIGAN.

ANSWER.—Good cells obtained from anywhere may be utilized, of course keeping in view to obtain them from best stock. Even if the cells are not advanced, merely started, they may be put into an upper story over an excluder on a hive with a laying queen, and the bees will care for them. For this purpose a colony with an old queen is better; the best being a failing queen that the bees are about to supersede.

Bulk Comb Honey

Having read an article on page 257 on the "Production of Bulk Comb Honey," I wish to give my method, as I have practised that method all my bee-keeping life—23 years. In fact, I have sold but little of any other kind of honey but bulk honey, and my customers seldom call for any other. One merchant who handles a large part of my crop told me that the honey I put up in quart and 2-quart glass jars "did not last till it was all gone!" All he had to do was to put a few jars in sight and it went quickly. I fill in about ¾ extracted and the rest nice squares of white comb, and I get about as much for it as section honey brings. The receptacles are useful in any family and they pay as much per pound for the jars as the honey. The same is true with tin pails in which I sell a great deal of honey. I just weigh it all to the customer, and at wholesale the pails cost about 10 cents per pound, and they buy and make no complaint. There is no need to put in more than 1-3 comb honey, either. I sell all my extracted honey that way, except where extracted is wanted for medicinal or cooking purposes, or a few buy it for their table use. But those are mostly old customers who know

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me, and are not afraid of getting glucose instead of honey. My honey was all sold before cold weather last year. And I had calls for several hundred pounds after all was sold, and I never shipped a pound of it. I find honest weight and honest goods build up a good local trade that stays with me. I have customers who have been buying honey from me for 15 years.

If I could only produce the honey, I would have no trouble to sell 5—yes, 10 times as much as I do. I cut out alternate combs, leaving about one inch of the comb on the top-bar for a starter. I have regular hives for comb honey, and others wired for extracted. I use only inch starters for comb honey when hiving new swarms, but full sheets wired for extracting hives. D. F. MARRS.

Lorena, Tex., April 2.

Mild Winter for Bees

The past winter was a mild one here, resulting in the bees' wintering quite well. Mine were set out as follows: 70 colonies on March 24; 50 on March 28; and 43 on April 3; making 163 colonies in all. A few days later, I took an inventory and found them in the following condition: 126 strong colonies; 28 medium; 5 weak; and 4 dead. This is the way I estimated them: a strong colony reaches from 5 to 7 and 8 spaces; a medium colony reaches from 4 to 5 spaces; a weak colony reaches from 3 to 4 spaces. The inventory was taken on cold, frosty mornings when the bees were in compact clusters.

FRANK STOFLET.

Auburndale, Wis., April 11.

An Amateur's Success

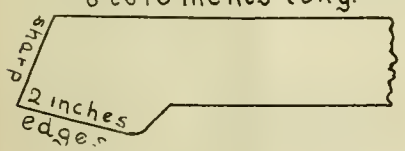
I am only an amateur in the bee-business, but was very successful last season, getting over 1,200 pounds of nice section comb honey from 10 colonies with only 3 swarms. All have wintered well on the summer stands, and are building up nicely now.

I am well pleased with the American Bee Journal. JAMES SOWARDS.

Pikeville, Ky., April 12.

A Buggy-Spring Hive-Tool

Herewith find description of a good, cheap, and practical hive-tool which can be made of a wagon or buggy spring. The broken end of a spring can generally be found at any blacksmithshop, and the thin end can be filed sharp, or you can get it sharpened for 10 or 15 cents; have it sharpened as per the illustration herewith—the thin end sharpened, and one side



about 2 inches back, to be used as a scraper, screw-driver or chisel; and the thick edge could be squared on one edge to use as a hammer to drive a nail with.

Have it the above shape to scrape out the corner of a hive, with the sharp, square edges so the fingers will not strike on the bottom or side of a hive. VIRGIL P. CUTLER.

Canon City, Colo.

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I sell queens at—1 queen, 25c; doz., $3. Also following supplies at ½ Root's prices: 1000 P & I. fences; 1000 plain section-holders; 1000 4¼x4¼ plain sections; Daisy foundation fastener; 10-inch foundation mill; 200 10-frame wood-zincs; 2 doz. Porter escapes; 500 Hoffman frames. **R. M. SPENCER,**

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Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in April:

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Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

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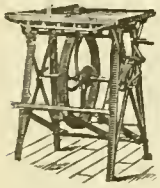

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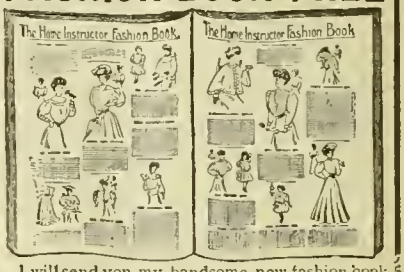

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Tested Queens	$1.00 each;	$10.00 per doz.
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Untested "	.50 "	5.50 "

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Carniolans! Italians!

FOR SALE

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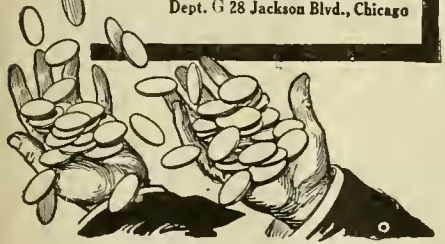

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PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

Now is the time for you to buy your Bee-Supplies. We manufacture Bee-Hives of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

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Muscatine Produce Co., Muscatine, Iowa.
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Extracts from Catalogs—1907:

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
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Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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17A6t P. O. BOX 332. Colton, Calif.

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ITALIAN QUEENS

That are bred from the best stock this country can produce. Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen after June 1, $2.00 GEO. W. BARNES.

15A26t Box 340. Norwalk, Ohio.

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Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

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and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4.00
Tested	$1.00	" "	5.00
Selected tested	1.25	"	
Two-frame nuclei with untested queen			2.00

Orders filled in rotation. Send orders to

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American Bee Journal

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Do you know that you are losing money—real, hard-earned money—every time you put a colony of bees into a cheap, poorly fitting hive? You are, for the good reason that the bees are spending most of their time building over the hive when they ought to be making honey.

HONEY MEANS MONEY

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MAKES THE FINEST

Thus more than the money that you think you are saving when you buy a cheap hive the bees are losing for you "hand over fist," and you don't know it. It's the fault of the hive.

That's why some bee-keepers get a whole lot more honey than others. That's why the man using the best goods makes the most money when it comes to cashing in at the end of the season. We can prove that. Men can build hives cheaper and better than bees. Then why not have everything just right to begin with?

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You will Satisfaction Guaranteed.
SAVE MONEY BUYING FROM ME. Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, April 4.—Market is quite bare of best grades of comb honey. When sales are made it is on a basis of 15@17c, with very little outlet for the off-grades. Extracted, 7@8c; off grades, 6@6½c. Beeswax in good demand at 30@32c. R. A. BURNETT & Co.

CINCINNATI, April 16.—There is nothing new in the honey market, excepting that this part of the country is bare of comb honey, and it is well, for consumers will appreciate the new crop more when it arrives. We are selling extracted amber honey in barrels at 5½@6½c. Fancy table honey, 8½c@9c, in crates of two 60-pound cans. For choice yellow beeswax, free from dirt, 32c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, April 10.—Owing to the cold weather, there has been quite a demand for comb honey in the last 10 days; quite a number of odd lots have been moved in this market, with not so many arrivals as heretofore. We quote: Fancy white comb honey, 15@16c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax, very firm, 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, April 12.—COMB HONEY.—There is very little doing; stock of white honey of all grades is practically cleaned up, and small shipments which arrive from time to time, find ready sale at 14@15c for choice white stock, and 12@13c for off grades. Considerable dark comb honey is left on the market, and there does not seem to be any demand whatsoever. We quote nominally at 10@11c, but in large lots we doubt whether this price can be realized. EXTRACTED HONEY.—California stock seems to be well cleaned up, and we are informed that there is very little left on the Coast, and, before the new crop is marketed, whatever is on the market now will have been consumed. The prospects in California are very good for a large crop, but nothing definite can be said at this time, and there is no surety of a big crop until it is actually gathered. Last season the outlook was just as good, but in the height of the season, cold northern winds and generally contrary weather affected the crop to such an extent that it was as small as in previous years. With favorable weather in California for the next two months a large crop will undoubtedly be harvested, and if so prices will naturally be considerably lower than those of the past season and present prices. We quote white sage at from 7@9c, and light amber at from 7@7½c. Near-by, as well as Southern honey, is well cleaned up, and the markets are in good shape for new crop. Cuban and other West Indian honeys are arriving in large quantities, most of which are sold for export. The market is firm, at from 58@60c per gallon, duty paid according to quality. Beeswax firm and steady at from 30@31c.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as beekeepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mar. 30—The demand for comb honey is light, as also are the receipts. The market is about bare of extracted. We quote: No. 1 white comb, 24 sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 28c.
C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2, selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5½@6c. Beeswax 32c, delivered here. C. H. W. WEBER.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to
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We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.
MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.
THE FRED. W. MUTH CO.,
51 WALNUT ST., CINCINNATI, OHIO.

"DADANT'S FOUNDATION"

IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.

Twenty-seven Years of Experience. We Guarantee Satisfaction.

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BEE-SUPPLIES of all kinds.

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Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago, there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville.
Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.

NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.

ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
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47th Year MAY 9, 1907 Number 19

AMERICAN BEE JOURNAL

Group of Bee-Keepers at the San Antonio Convention of the National Bee-Keepers' Association, held Nov. 8, 9, and 10, 1906

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Goes to press Monday morning.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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Bee-Keepers' Souvenir Cards
are just the thing.
We send them by Return Mail

O WONT YOU BEE MY HONEY
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

9Atf Please mention the Bee Journal.

Best No. 1 Sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Discounts on Danz. and Root's hives, and other Root's Goods; also Berry Boxes. Bees for sale.

H. S. Duby, St. Anne, Ill.

6A14t Please mention the Bee Journal.

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4 00	$ 7.50	$ .60	$ 3.25	$ 6.00	$ .85	$ 4 50	$ 8 00	$ .95	$ 5.00	$ 8.50
Select Untested	1 00	5.00	9.00	.75	4.25	8.00	1 10	5 50	9.50	1.20	6.00	10.00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18 00	1.50	8.00	15 00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00	1-frame Nucleus (no queen)	$1.50
Select Golden Breeders	3.00	2-frame " "	2.00
" 3-band "	3.00	3-frame " "	2.50
" Carniolan "	3.10	4-frame " "	3.00
" Caucasian "	3.25	1 full colony without queen in 8-frame dovetailed hive	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf **JOHN M DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

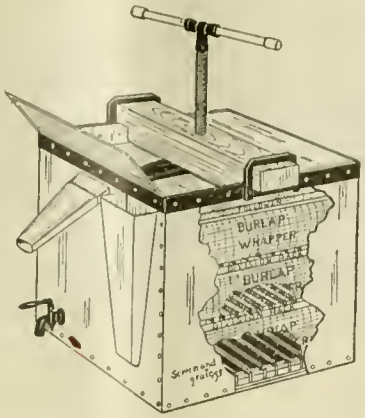
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c. or $8 a doz.; Tested, $1. or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

13A10t J. W. TAYLOR & SON BEEVILLE, Bee Co., TEXAS.

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Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Every thing needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

Catalog for either, with instructions to beginners—Free.

29A1f **C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.**

QUEENS FOR YOU

Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.
12A1f Please mention the Bee Journal.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45A1f KNOXVILLE, TENN.
Mention Bee Journal when writing.

For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8-room house—on Wisconsin river. Address, O. C. FITTS,
10A13t KILBOURN, WIS.
Mention Bee Journal when writing.

Queen-Clipping Device Free!

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

"If goods are wanted Quick, send to Pouder." Established 1889.

Coming On Through Freight

By the Bee-Crank.

There's a lot of talk these days about car shortage. If you are curious to experience a taste of what it means, order your next bill of Supplies shipped from some out-of-the-way point, and then sit down and await developments.

But if, like most bee-men, you haven't much time to sit in idleness—if you order your Supplies because you need them—better cut out the experiment business and order from Pouder. There is no car shortage in Indianapolis. There never is, and in the nature of things there is no likelihood of there ever being one. Indianapolis is the center point of a lot of the big trunk-line systems of the country. Cars pour in here by the thousand daily, from every quarter. When your order is received by me in the morning, by nightfall the shipment is booming along on the way by through freight, straight for your place, and it keeps moving until it reaches you.

I carry a full line of the Root goods at Root prices, and I not only save you time, but I save money in freight charges.

BEESWAX—send it along. I will pay the highest market price at all times. Send by freight or express, according to size of shipment.

Walter S. Pouder 513-515 Massachusetts Avenue INDIANAPOLIS, INDIANA

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

GASOLINE ENGINES

A four-page article on the use of large honey-extractors with gasoline engines is found in the May 15th Gleanings. The article is fully illustrated and well worth 25 cents to any one interested in the production of extracted honey. When labor is high and help hard to find the gasoline engine and power extractor come in to help the bee-keeper out and save his crop. Send for this number of Gleanings. Price, 10 cents. Six months to new subscribers (12 copies) for only 25 cents, and your money refunded if dissatisfied in any way.

BEES AND QUEENS

There is sure to be a heavy demand for bees and queens for months to come, on account of the large losses all over the North during the past month, because of the continued unfavorable weather. If you want to requeen your apiary, or get a good breeding queen, or restock your empty hives, you should send your order at once to secure delivery early. There is sure to be a large demand and consequent inability of breeders to supply promptly, so remember, "first come, first served."

PRICE-LIST of BEES AND QUEENS

HOME-BRED ITALIAN QUEENS

	Oct. to June.	June to Oct.
Untested queen	$ 1.25	$ 1.00
Select untested queen	1.50	1.25
Tested queen	2.50	2.00
Select tested queen	3.50	3.00
Breeding queens	6.00	5.00
Select breeding queens	9.00	7.50
Extra select breeding queens, 1 year old	12.00	10.00

IMPORTED ITALIAN QUEENS

Best imported queens	$5.00
Fair imported queens	3.00

SOUTHERN-BRED ITALIAN QUEENS

For those who desire to get pure Italian stock at a moderate price, we are prepared to furnish queens direct from our breeders in the South at the following scale of prices:

	Oct. to June.	June to Oct.
Untested queens	$1.00	$ .75
Select untested queens	1.25	1.00
Tested queens	1.75	1.50
Select tested queens	3.00	2.50

5-BANDED ITALIAN, CARNIOLANS, OR CAUCASIANS

These will be furnished at the same prices as our home-bred Italian queens.

PRICES OF NUCLEI AND COLONIES

	Oct. to June.	June to Oct.
1-frame nucleus, without queen	$ 3.00	$ 2.00
2 frame nucleus, without queen	4.50	3.00
3 frame nucleus, without queen	5.50	3.50
Colony in 8 fr. Dov'd hive, no queen	10.00	7.50
Colony in 10-fr. Danz. hive, no queen	11.00	8.00
Colony in 10 fr. Dov'd hive, no queen	12.00	9.00

We can supply with the nuclei any of the queens mentioned in this list. When one buys an extra-select queen, or any high-priced queen, he would do well to have her come in a nucleus. This will assure safe arrival.

Where a customer desires a queen's wings clipped a charge of 25 cents extra will be made.

BEE-MODELS

There are a good many bee-keepers who will admit they ought to know more about the anatomy of the bee; but owing to the difficulties surrounding the subject they have thus far been unable to acquaint themselves in the least with the marvelous structure of the honey-bee. For such persons there has been constructed a *pasteboard* bee, showing all the internals of a queen and also a drone in a manner that leaves little to be desired. With the aid of the key, any intelligent person may soon become well acquainted with the anatomy of the bee and the proper name of each organ. First, there is a life-like representation of the queen and drone (separately). By lifting the outer covering the breathing apparatus and digestive system are unfolded; lifting again there will be found the reproductive system and poison glands; and by again lifting, the nervous system is clearly outlined. Everything is as clear as daylight, as each part and organ is numbered, and the key which we send gives the correct scientific name of the same. Our models of the queen measure 6½ inches, while those of the drone are 5½ inches. We can furnish either with key at 50 cts. postpaid.

THE A B C OF BEE CULTURE

The 1907 edition (English) will be ready early in the coming fall. A complete French edition ("A B C de L'Apiculture") is ready for mailing; price of this edition $2 00, postpaid. We are booking orders for the German edition, which is expected by Sept. 1st. The price of this is also $2.00, postpaid.

THE SWARTHMORE LIBRARY

A series of booklets on bee-subjects by E. L. Pratt, of Pennsylvania, known to the bee-keeping world as "Swarthmore." These books are full of the most valuable information. The Swarthmore method of queen-rearing is spoken of as the most important innovation in bee-keeping of recent years.

INCREASE.—The first of the series. Any one desiring to enlarge his apiary should learn the Swarthmore way. Price, postpaid, 25 cts. French edition, entitled, "Accroissement," 50 cts. postpaid.

BABY NUCLEI.—The using of little frames and a handful of bees for mating queens has created quite a stir in the queen-rearing business From this booklet you get your information direct. Price, postpaid, 25 cts. French edition, entitled, "Nuclei Miniatures," 50 cts. postpaid.

COMMERCIAL QUEEN-REARING—A complete description of the Swarthmore methods of queen-rearing in regard to cell-getting. Price, postpaid, 25 cts.

SIMPLIFIED QUEEN-REARING.—Revised edition. It tells the honey-producer how to rear queens by the very simplest method ever published. Good queens for little money and little trouble, in just an effective and economical plan for the bee-keeper who works for profit. Price, 25 cts. postpaid.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., MAY 9, 1907 | Vol. XLVII—No. 19

Detecting Adulterants In Honey

A subscriber in New Zealand writes as follows:

Is there any easy method which an ordinary bee-keeper might apply to detect the presence of adulterants in honey?

In New Zealand the public buy the comb honey because they know it can *not* be faked. It seems to be a more sensible view than that of the United States of America public. We don't nearly meet the demand for comb honey here.

We don't know of any unless it be by the taste. It is not very difficult to detect the presence of glucose by the taste.

New Zealand is ahead of the world in a good many ways, and you are to be congratulated that your public is so intelligent that it knows comb honey can not be faked. Here, too large a proportion of the public believes not only that comb honey can be, but that it is faked. But the tide seems to be turning, and we are counting much on what will be effected by our pure-food laws.

Brevity Sometimes Dangerous

Brevity is desirable, but it should not omit an essential part of a story. Mr. D. M. Macdonald occupies a page and a half of the British Bee Journal with what he calls gems from "Forty Years Among the Bees." The work is exceedingly well done, but the brevity of the extracts, averaging perhaps 4 lines each, may in a few cases lead to misunderstanding when such short statements are taken without the context.

The sentence, "I have found no way of securing all worker-comb except by having it built by a weak colony." Taken alone that might be understood to show that weak colonies were generally used for building comb, and that Dr. Miller had not learned the value of comb foundation. On the contrary, it is well known that Dr. Miller is an earnest advocate of full sheets of foundation, both for brood-combs and sections, and the number of brood-combs in his hives not so produced are exceedingly few. A statement of the whole truth would be, "I have found no way of having the bees build all worker-comb without the use of foundation except by having the comb built in a very weak colony. My practise is to have combs built in strong colonies on worker-foundation."

Another extract reads: "If a colony has 9, 10, or more frames of brood, all but 8 are taken away." Somewhat vague as it stands, but some might understand a disapproval of more than 8 frames of brood to the colony at any time. On the contrary, the largest amount of brood is encouraged up to the time of putting on supers, when each colony is reduced to one story of 8 frames each.

"Increase is made by taking frames to the out-apiary, and, of course, bees stay wherever they are put, and work up into a colony." The last part of the sentence suggests the advantage of making increase in that way, but the labor of moving to the out-apiary is no small item, and as a matter of fact the plan is seldom used.

Possibly some of D. M. M.'s readers would be less puzzled if he would clear up these few points.

Nuclei and Colonies

A nucleus is well understood to be a very weak colony of bees, but just where is the dividing line between a nucleus and a colony is not so well understood, just as it is not always easy to say when a boy becomes a man. Perhaps it might be said that anything less than 3 Langstroth frames, fairly well covered with bees, is a nucleus, and anything more is a colony. That leaves 3 frames of brood covered with bees to be called sometimes a nucleus and sometimes a colony. The time of year may have something to do with it. Hundreds of colonies come out of winter quarters with no more than 3 frames covered with bees—yes, thousands of them; and many with less than that, and yet at that time of year they are called colonies. In the middle of summer they would hardly be called colonies, but nuclei. Then there are the "baby nuclei" about which so much has been said lately, consisting of 1, 2, or 3 very small combs, with a correspondingly small number of bees.

Higher Postage Rate to Canada

Beginning with May 8, the postage rate on all United States periodicals mailed to Canada was quadrupled, which will compel us to raise the subscription price on the weekly American Bee Journal to all Canadian subscribers, from $1.00 a year to $1.50. This is made necessary from the following notice which was recently sent out by our Postmaster-General, Hon. G. v. L. Meyer, at Washington, D. C.:

"It is hereby ordered that, commencing on the 8th day of May, 1907, the postage rate applicable in the United States to 'second-class matter' addressed for delivery in Canada shall be one cent for each four (4) ounces or fraction of four (4) ounces, calculated on the weight of each package and prepaid by means of postage stamps affixed."

This will compel us to put a 1-cent stamp on each copy of the American Bee Journal mailed into Canada, beginning with this week's issue. Therefore, our Canadian readers will please take notice of the increase in price when renewing their subscriptions, which increase is not our wish at a but is made necessary, as stated, through international postal agreement.

Of course, every Canadian subscriber now on our list will receive the Bee Journal the full time for which he has paid, regardless of the heavy extra postage bill we are called on to pay. It will be quite a loss to us, but the American Bee Journal means to do as it agrees. We trust that our Canadian readers will continue their kindly support right along.

American Bee Journal

Working Under Difficulties—that's what we have been doing in order to get this number of the American Bee Journal out on time. It is a rather serious matter to move a printing office, and be able to find everything again very soon. But in a week or two more we will have everything in "apple-pie order," and running as smoothly as ever. Please remember we are never so much interrupted that we can't take care of all renewals and new subscriptions for the old American Bee Journal that may be sent to us.

Honey Conditions in Southern California.—We have received the following from Mr. John Stewart, of Southern California, dated April 28, 1907:

AMERICAN BEE JOURNAL—

The enclosed from the Los Angeles Times for April 26, is true of the conditions of the honey-production in the fog-belt near the coast in Southern California; but more inland, in the orange-producing districts, the conditions have been better for a fair honey crop this year. The swarming season is on.

JOHN STEWART.

From the clipping sent we condense the following:

Bees are dying every day this spring, while there are flowers in abundance. In some places the bee-men have to feed their bees daily on sugar to keep them alive, while in the hills and orange groves there are millions of blossoms.

This strange condition is laid to the cool, cloudy weather which is a great hardship on the busy bee, and which has prevented the development of the honey-producing element in the flowers. A continuation of such weather as has prevailed the past week will cut down the honey-supply materially. A week of sunshine will be the means of saving many valuable colonies of bees throughout Southern California.

Such is the summary of conditions as indicated by reports received by H. J. Mercer, Secretary of the California National Honey-Producers' Association. Mr. Mercer believes that unless there is a decided change in weather conditions within a few days, the crop will fall far behind that of last year, and that also was a great disappointment to bee-keepers.

Reports come from various sections that the bees start out to gather honey, load themselves down, and then are overcome by the cool and damp weather, and fall along the way to die of exhaustion. This is a condition reported from various bee-ranches in widely scattered localities.

Then the bees will not go out on the cold and foggy mornings, and, as a result, there is a consumption of the honey already stored in the hives. In some cases colonies have eaten themselves out of honey-supply, and actually have starved before their condition was discovered, and all this has occurred within a very few days.

Yesterday a shipment of 1000 pounds of white granulated sugar was sent up to Charles Ebert, in the canyon above Azusa, to feed his bees that are on the point of starving. Other bee-keepers have been feeding for the past 2 weeks—the very period when the bees ought to be laying in large amounts of honey.

Such reports come from La Canada, Providencia and Chatsworth. Emerson brothers, near Fullerton, who have 1200 colonies of bees, report that the bees are dying of exhaustion these cool days, and that they have consumed their supplies in many cases.

Similar reports come from T. O. Andrews, at Corona, who has 400 colonies, and from J. W. George, at Perris, Riverside county, who has gone into bee-keeping on an extensive scale. A like discouraging report comes from M. H. Mendleson, of Piru, who has begun to feed his bees to keep them from starving on a ranch which has been famous for its fruit-trees, and which have been simply aglow with blossoms.

The bee-ranch of L. E. Mercer, in the Castaic Canyon, is said to be the largest in the United States. He has close to 2000 colonies in this canyon, and has them scattered about in 6 locations. The season started in with brightest prospects for a record-breaking year for honey-producers, says this veteran bee-man. There was a wealth of blossoms, brought about by the extensive wet season, but this has not availed. A few weeks ago Mr. Mercer estimated that he would have fully 100 tons of honey from this season's work. Now he has scaled this down to a crop of 50 tons, and unless there is a change very soon in weather conditions, he thinks this will still be reduced.

The bee and honey business has reached an extent in Southern California that is little realized. The report of last year made by the Los Angeles County Statistician, gives the number of colonies of bees as 40,000, and their value as $200,000; and the amount of beeswax marketed as 9000 pounds, with a value of $2050.

E. A. Fischer, Inspector of Apiaries for Los Angeles county, said yesterday that he is convinced there has been an increase of fully 10,000 colonies of bees in this county since the report was made. He has been waging a constant war against the spread of "foul brood," and believes that with the co-operation of the honey-producers the pest will be kept down to the minimum.

The first honey to come into the Los Angeles markets is from the orange-growing sections, stretching from Pasadena to San Bernardino and Redlands. This orange-blossom honey is generally of fine quality, but it has the objection of granulating quickly. The first arrivals of this honey are now due; but honey merchants in Los Angeles said yesterday that there is no prospect of shipments here for at least 3 weeks.

A factor showing the extent of the honey industry is the record of sales by one firm in this city which makes a business of supplying bee-keepers. This shows that there were sent out from the place last year more than 50,000 5-gallon cans for the storage of honey.

Anticipating a shortage of crop, H. J. Mercer has been storing honey for the past 2 years, and since last July he has sold to Los Angeles merchants alone honey amounting to $35,000. This surplus honey is now well cleaned out, and with the partial failure of the present season's crop, there is certain to be a soaring of honey-prices that will make the sweet substance taste like money.

The National pure-food law, which has affected the marketing of so many products, has also had its effect on the honey-market, and has put the producers of pure extracted honey in their proper position, where they do not have to compete with adulterated honeys.

The merchants now require wholesalers of extracted honey to give them a written guarantee of its purity, as a matter of protection to the merchants, and this is gladly done by the concerns which have heretofore had to compete with the "dope."

Surely, the foregoing is not a very encouraging report for the bee-keepers of Southern California. It is hoped, however, that for their sakes, if not for the sakes of the bee-keepers of the rest of the country, honey conditions may yet take a turn for the better, so that there may be at least a fair crop of honey harvested by the bee keepers in the region mentioned by the clipping from the Los Angeles Times.

But evidently honey is to be honey this year, as a good share of the North has had a cold, backward spring, which, in all probability, will prevent the bees from being ready for the honey crop even if it is in the flowers later on.

Ode (Owed) to the Weather Man

Weather is cold. Bees don't get out more than 2 days in the week. Yesterday it snowed.

I don't know how the others feel
About this horrid weather;
I wonder if 'twould help to squeal
If we all squealed together.

The pussy willows blossomed fine,
The clover started growing;
But soon the sun forgot to shine—
'Most all the time it's snowing.

The weather man who did these things—
Who brought this useless freeze—
Just ought to *bee*-filled up with stings—
I'd like to furnish bees.

Bellevue, Mich., May 1. C. H. BENSON.

Rev. Robt. B. McCain, of Oswego, Ill., called on us in our new quarters at 118 W. Jackson Blvd. last Friday. He reports cold weather in his locality, but expects a good honey season just the same. We had quite a snow-storm in Chicago the day he was here—May 3.

Getting New Subscribers for the Bee Journal is something that almost any reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

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Facts About Swarming of Bees

BY ADRIAN GETAZ

Among the different kinds of work done by the European Societies of Agriculturists is now and then a study of some subject connected with bee-keeping. A series of questions or experiments is submitted to the members with the request to observe or experiment during the ensuing summer, and report. It is not obligatory on the members, so only those who can do take part. Sometimes when the experiments requested involve a notable expense of time or money, prizes are offered to be given to those who have done the best work. Among the apiarists are found a good many who have for a number of years studied some subjects, or kept note, of whatever happened in their apiaries. It is through some arrangements of that sort that the following information on the swarming question was obtained, principally through the efforts of Mr. Thibault, Secretary of the Societe du Bassin de la Meuse.

Time of Swarming.

In the country covered by the observations (northeastern part of France), the swarming commences on an average date on May 28 and ends on June 20. The extreme dates have been from May 17 to June 13 for the beginning, and from June 6 to July 4 for the ending.

Duration: An average of 24 days. It is understood that these dates refer to the northeast part of France. Other localities differ for different seasons. For instance, in Belgium Mr. Mercier gives for the swarming period from May 20 to June 30.

A full study of the swarming period observed during 20 years in an apiary of about 80 colonies is given. I will not reproduce it here in full. Out of the 20 years 3 were quite early, 10 near the average, 5 late, and 2 very irregular so far as the dates and duration of the swarming period are concerned.

Taking all the information obtained in consideration, the average number of first swarms is put down in the following proportions: One-fifth in May; ½ from June 1 to June 10; ¼ from June 10 to June 20; 1-10 after that date. Very few swarms come out before May 25, and very few after June 20, so the apiarist could go to the expense of close watching only between these dates.

Time of the Day.

The limits observed are 8:15 a.m. and and 4 p.m. in the extreme cases. On the total number observed, 5 percent issued before 10 a.m., 22 percent between 10 and 12, 56 percent between 12 and 2 p.m., 15 percent between 2 and 3 p.m., and 2 percent after 3 p.m.

The Weather.

Needless to say that the bees will not swarm when it is raining. To what extent they may do it in cloudy but not actually rainy weather has unfortunately not been noted. The wind, when the weather is otherwise favorable, seems to have considerable influence. Evidently no swarm will issue on a stormy day. But in fair weather 82 percent of the swarms issued during no wind, or a light wind, and only 18 percent with a wind of medium strength or more.

As could be expected, the temperature has a paramount influence. Eighty-nine percent of the swarms issued when the temperature was above 68 degrees Fahr., in the shade, and 11 percent when below. One swarm issued at a temperature of 59 degrees, and the weather "nearly raining." That was the lowest observation.

It was also ascertained that by far the largest number of swarms issue when the barometer is high, but as the state of the weather as to being more or less cloudy or more or less warm was not observed in connection with it, the fact has but little value.

Position of the Hives.

Eighty-six percent of the swarms issue when the sun shines on the entrance. It seems by that that the number of the swarms ought to be materially decreased when the hives are in a shaded place. It is also stated that a very large proportion of the swarms issue from hives turned otherwise. Unfortunately the number of hives turned either way was not recorded. As most of them are turned toward the south, or nearly so, most of the swarms come from such hives in at least the same proportion. It would have been interesting to ascertain this point fully and find out whether the direction has any influence at all, and if it has whether it is due to a higher temperature, or to the actual shining of the sun on the entrance, or perhaps something else.

Nature of the Bees.

The disposition to swarm varies excessively with the different races, and in the same race with the different varieties, and even the different individual colonies. Nothing definite could be deducted from the reports. It is stated that in France fully 99 percent of the colonies are the common black bees.

In one of the apiaries reported (probably that of Mr. Thibault himself) everything is recorded in detail since 1883. A study of the swarming in that apiary brings out some interesting facts concerning the vitality of the different strains or varieties of bees. Suppose an apiary of 100 colonies to start with. These colonies and the swarms produced by them will swarm more or less every year. After 20 years, out of the 100 colonies 42 will have disappeared entirely, not only themselves, but the swarms that descended from them in succession. Eighteen will be represented by one colony each; 16 by 2 colonies each; 8 by 3 colonies each; 4 by 4 colonies each; 4 by from 5 to 9 colonies each; 4 by from 10 to 19; 2 by from 20 to 29; 2 by 30 or more. It is also shown by the tables given that the colonies having left the largest number of descendants are those which swarmed neither very early nor very late.

Age of the Queen.

Out of 301 swarms 130 were from colonies having swarmed the year before, and therefore had queens one year old; 61 from colonies having swarmed 2 years before; 44 from colonies having swarmed 3 years before; 66 from colonies having swarmed from 4 to 12 years before. These can not be taken into account. Evidently nearly all their queens had been superseded and therefore their age can not be ascertained. Some may have swarmed unobserved.

It would seem by these figures that the age of the queens has but little to do with the swarming question. This was quite a puzzle to me. I would have thought that the colonies with queens but one year old would have swarmed considerably less than those with older queens. At least that is certainly the case in my apiaries.

After considerable reflection on the subject I came to the conclusion that the discrepancy is due not exactly to the "locality," but to the hives used. In Europe most of the hives are yet the old-fashioned straw hives. The straw is all right enough, but the hives are usually entirely too small. Now when a colony is decidedly too crowded, and the space is lacking for brood and surplus, the colony will swarm if the conditions of weather and honey-flow are favorable, no matter how old or young the queen may be. And, after all, I do not know but that under such circumstances the colonies with young queens might swarm the most, since the young queens, being the best layers, would get the colonies crowded the soonest or the most.

The Drones.

Fifty-four percent of the swarms observed came from colonies having a great many drones, and 46 percent from colonies having but few. Mr. Thibault adds, however, that while it does not make much difference whether there are many or few drones, no colony will swarm when there are none at all. He also says that a queen which is not defective in some way or other will not lay any drone-eggs during the year she has been reared; that means a queen less than a full year old.

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He advocates as prevention of swarming requeening just before the main honey-flow; that is, as far as that part of France is concerned.

NEARNESS TO WATER.

Owing to the fact that the bees need a considerable quantity of water to rear their brood in the spring, it was supposed that the proximity to a suitable place to get water would increase the amount of brood reared, and the swarming would occur sooner. The reports fail to show any noticeable difference.

SIZE OF THE HIVE.

On 722 hives observed during 7 years, it has been found that out of 100 colonies lodged in straw hives of a capacity of nearly a cubic foot, 60 to 70 will swarm. Out of 100 lodged in one-story movable-comb hives of a capacity of about 2 cubic feet, 25 to 30 will swarm. And, finally, out of 100 lodged in Dadant-Blatt hives, with enough supers to accommodate them fully, only 5 will swarm. Mr. Guillemin reported that in his own apiary with such hives, many years have passed without any swarm at all.

AMOUNT OF HONEY.

In regard to the quantity of honey in the hive, 45 percent of the swarms observed came out of colonies having less than 20 pounds of honey; 41 percent from those having between 20 and 40 pounds. And what puzzles me most, only 14 percent from colonies having 40 to 60 pounds of honey. I would have thought that the colonies having the most honey would be those crowding the queen the worst, and therefore the most liable to swarm. The size of the hives should have been noted, but was not, so that no certain conclusion can be deducted.

EMPTY COMBS.

If the quantity of honey present in the hive has no influence in itself, that is, no direct influence on the swarming, it may have a great influence in restricting the amount of empty comb. Eighty swarms out of 100 issued from colonies where the amount of empty comb was insufficient for both the queen and the workers. Hence, the advantage of large hives.

Concerning the straw hives, Mr. Thibault thinks the best mode of management is that which consists in adding just before the honey-flow another body under the old one. That is practically the equivalent of the Simmins method.

If I were working for extracted honey, I would certainly try putting the supers under rather than above the brood-nest. When working for comb honey it is different, because the sections would be badly travel-stained.

HONEY-FLOW.

The first swarm of an apiary usually issues 6 or or 7 days after the main flow has begun. The dates may vary some years between 4 and 13 days, not counting colonies swarming on account of some exceptional conditions. It follows that the preparations for swarming are begun before the main flow occurs; at least in that part of France. It might not be so everywhere else, by any means.

In discussing this subject, Mr. Thibault recalls the well-known fact (in Europe) that there are but few swarms when the honey-flow is heavy and of long duration.

Knoxville, Tenn.

Why and How to Clip Queens' Wings

BY G. M. DOOLITTLE

In a recent article I told the readers of the American Bee Journal how to find queens; giving as plain directions as possible, so that even a novice could find one. Perhaps some of the readers wondered at this, thinking that it would not be necessary to find one queen out of 20 during the season, but, according to my views, all queens should be seen at least once a year for the purpose of clipping their wings.

This clipping of queens' wings has been under discussion for many years, and while the majority of practical apiarists agree, that, to reap the best results the wings of all laying queens should be clipped, a few oppose it, claiming that swarming is conducted with more labor, and also that such a practise will tend toward the weakening of the wing-power of our bees in years to come. Without stopping to discuss these matters further just now, except to say that I believe both points raised are fallacious, I will tell the readers why I clip the wings of my queens.

In the first place, a queen with her wings all clipped short is more readily found when looked for than the one having her wings, and as in our manipulations with bees, it is often very necessary to see the queen so as to keep her when and where we desire, this finding of a queen is quite an important item. And as the average bee-keeper can find a "fully" clipped queen in less than half the time it takes to find an unclipped queen, this saving in time is often quite an important matter.

Second, in the swarming season we have complete control of the bees, so that we can compel them to do just about what we wish them to do. The first idea of clipping queens' wings was to keep the swarm from flying off to the woods, as all know that as soon as a swarm misses its queen it will come back to the old or parent hive again; but valuable as this idea is, still there are other points which I consider of far more importance than the roving of now and then a swarm which might result during the season from the apiarist not seeing them in time for their hiving, or the occasional swarm that might go off without even alighting.

My home apiary is located near a piece of woodland with tall trees near by, and by having the wings of all queens clipped I do not worry about such swarms as may cluster 40 or 50 feet up from the ground in these trees, for as soon as the bees notice their loss of queen, they will uncluster and return to the old stand hunting for their queen; so by having the queens clipped I am complete master of this situation; never having to climb tall trees (where none but prime swarms are allowed to issue), and never having to cut off limbs of lower trees to secure the swarm, as is done many times to the mutilating of valuable trees.

Then in hiving such swarms as have their queens clipped, all that is necessary is to set the new hive in the place of the parent hive till the bees return and run in with their queen, which you will let loose at the proper time, having picked her up and caged her as soon as the swarm was on the wing. As soon as the bees are in the new hive, having hived themselves, as it were, the hive is picked up and set where we wish it to stand, and the old one put back where it was before. Or we can leave the new hive with the swarm on the old stand, and carry the old hive to a new stand, just in accord with our practise of working an apiary. Then you are sure in having the queen go into the hive just where you wish her, as you have her in the cage at your command, while if she were with the swarm she might run under the hive, or take wing and go back on the limb where the bees clustered, taking them with her, etc.; in fact, doing unthought-of things apparently just to perplex and annoy the apiarist.

Again, in an apiary containing from 10 to 100 colonies, it frequently happens that two or more swarms will come out near the same time and cluster together, when we have a perfect nuisance where the queens are enabled to fly with the bees; but where their wings are clipped these bees can be separated so as to have only one swarm in a hive as easily as any stock mixed together could be. And, lastly, if for any reason we are not ready to hive the swarm when it comes out, and therefore wish to hold the swarm on a limb or pole while we make a hive or something of the kind, we can keep them as long as we please by simply hanging the caged queen with the cluster. If they try to go off through our being slow in our part of the matter, they will come back to the limb or pole where the queen is as soon as they miss her, and stay there instead of going back to their old home, as I supposed they would till I found out differently. I have thus held swarms for nearly 2 days in trying to see what could be done.

But as this is an article written so that the novice can "catch on," I think I hear some one asking "how the clipping is done."

There are various ways, and a few devices invented for holding the queen while she is being clipped, but with me I use only two plans, and have no use for anything further. The first is the one used at all times (except where I wish to do some special clipping to make sure of the identity of a certain queen which I have reason to believe will prove very valuable), the clipping in this case being done with the jack-knife, which is always with any apiarist, for a man is "not at home" unless he carries a knife in his pocket.

Having found the queen, catch her by the wings, using the thumb and forefinger of the left hand. Now place

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the sharpened blade of the knife on the wings of the queen, when both hands are lowered down within an inch or two of the tops of the frames in the hive, when the knife is lightly drawn, the wings severed, and the queen runs unharmed below. You need not be afraid of cutting the fingers, for if you stop drawing the knife as soon as the queen drops, you can not do so.

If you think you can not catch the queen "left handed," then use the right hand in catching her. Next hold her so her feet can touch the forefinger of the left hand, to which she will immediately cling. Now shut the thumb down carefully over her feet, being sure that you get all three legs on one side so she will not twist around and break a leg, as she would surely do if only one foot were held fast. Having her held thus securely, carefully lower her with her back to the top of the hive till her wings spread out on top of the same, when you can cut them off by bearing down with the knife on top of the edge of the hive.

If it is the first queen you have ever clipped, you may be a little nervous and shaky, but if you go slow and think of nothing but the work you wish to perform, you will soon feel as much at home clipping queens as you are in removing the surplus honey from the hive.

Now for the other plan which is used to mark certain queens which you wish to keep track of. Have at the apiary a pair of small scissors, and when you wish to cut only one wing, or any definite part of the wing or wings, use these scissors instead of the knife. When doing this you will catch and hold the queen by the legs in your left hand, as told how to do above, when you will deliberately, with the points of the scissors, cut just as much, and just as little, and just where on the wings or wing as you have decided that should be done that the queen may be marked so as to distinguish the points which you wish to register in your book in which you keep the pedigree of all your best queens.

I would as soon think of going back to the old-fogy ways of our fathers, when keeping bees, as to work an apiary on the swarming plan without having the wings of all queens clipped.

Borodino, N. Y.

Conducted by J. L. Byer, Mount Joy, Ont.

The Prospects in Ontario

Reports as to how bees have wintered here in Ontario are exceedingly varied Dysentery has been quite prevalent, and, on the whole, I am inclined to think that the loss will be above the average.

April, up to date of writing (17th), has been unusually cold; in fact, in our locality there has not been a single day that bees could fly freely. Cold north winds during the day, and freezing nights, have been the rule. As a result, alsike—which is our chief source of surplus here—is quite badly heaved, especially on low grounds. Taking everything into consideration, the prospects for a good crop of honey are, with us, none too flattering. However, last year prospects were good, yet the crop was almost *nil;* so with the hopefulness so characteristic of bee-keepers, we are trusting that conditions will be reversed this season.

Distance Bees Gather Nectar

I hardly know what to think of the claims of Doolittle, Chambers, and some others, relative to bees working freely at from 3 to 5 miles from the apiary. Mr. Chambers seems to think page 279) that the race of bees has much to do with this long-distance working, for he says: "I have learned to despise a race of bees that are not good for a crop of honey if it is to be had only 3 miles from them. Doolittle and others pin their faith to the Italians, and claim that it is common for their bees to work at distances named.

Now I happen to be an admirer of the same race that Mr. Chambers is so enthusiastic over, viz.: the Carniolans—and while I have them as well as Italians in my apiaries, yet I am sorry to confess that, so far, pasturage 3 miles or over from the bees might just as well, so far as practical results are concerned, be 20 miles away. While bees at my out-yard were working freely on buckwheat, at the home yard hardly a bee was moving, although the nearest fields of buckwheat were little over 3 miles away.

Have an idea that there is a good deal of truth in Mr. Chambers' guess, that the "location of the apiary with regard to the surrounding country has something to do with it." No doubt if there had been some fields of buckwheat, say half way between the home yard and the buckwheat 3 miles away, the bees would have found the latter also, as I have noticed that they seem to go further when they have something to lead them on, as it were, than is the case where there is a lot of blank territory to fly over. This question of long-distance gathering does not appeal to me in a controversial manner, as I believe it is one that every intelligent bee-keeper can solve for himself, and, personally, I only wish I could truthfully (and thankfully) claim to have a strain or race of bees that would reach my pasturage 3 miles away, or even 10, for that matter.

Clipping Queens' Wings

Glad to note (page 262) that so well-known an apiarist as R. C. Aikin clips his queens while they are on the combs, without touching them with his fingers. *Now*, if any one comes along and pokes fun at me for advocating such a method, I shall just turn him over to the mercy of Mr. Aikin, and look on and smile.

The scissors I use are by actual measurement 4½ inches long, and have a curved point. Most of the small scissors are manufactured for ladies' use, and, as a consequence, the handles are too small for the clumsy fingers of one of the masculine gender. The pair I am using are, as previously stated, made specially for surgeons' use, so this difficulty is overcome, and at the same time the scissors are small and light.

I might add for the benefit of some who may try the plan, and at first pronounce it a failure, that the first time I attempted to clip in this way the method was pronounced impracticable, but after exercising a little patience, my mind was changed, and to-day I can clip the queens about as fast as you have a mind to pass them along.

Dysentery Among Bees

While at the Victoria County bee keepers' convention, a few weeks ago the subject of dysentery was under discussion. As previously stated, this trouble has been unusually prevalent during the past winter and present spring here in Ontario, and a number of the bee-keepers at the meeting referred to were telling of their losses from this cause.

Mr. J. T. Storer, of Lindsay, who is a very successful bee-winterer, stated that for more than 10 years past he had not had a single case of dysentery among his bees, and he attributed it all to the fact that he always made it a point to have every colony go into winter quarters *very heavy* with good stores And, again, no matter how heavy a colony might be with honey in the fall, he wanted each colony to have at least 10 pounds of syrup made of best granulated sugar. Mr. Storer uses a fairly large hive, viz: 8-frame Langstroth length, but 3 inches deeper, and he sees that each colony has at least 40 pounds of stores before putting it into the cellar. Although his cellars are about perfect, and his bees winter in ideal condition, consequently using very little stores, yet Mr. Storer finds no difficulty in turning this reserve supply of honey into his bees before the clover flow comes on.

Mr. Storer's success certainly speaks well for his methods, and while some

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may object to giving such a large amount of stores in the fall, personally I feel that it is wise to err on the safe side, and each year I am more and more inclined to think that *abundance* of good stores is one of the first requisites of good wintering, and also just as essential towards the rapid building of our colonies in the following spring—especially during a very backward season like we are just passing through, it is a source of comfort to know that every colony has 20 pounds or more of honey in the hive, and that we need not worry for fear some colonies will starve.

Aside from the matter of worry, there is no question in my mind but that the feeding operations—opening up the hives during inclement weather—and other work necessitated by bees that are light in stores in early spring is anything but conducive to the welfare of the colonies.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

The Langstroth or Divisible Brood-Chamber Hive—Which?

A correspondent from Germany has written me in regard to the kind of American style of hive I would advise him to adopt especially for out-apiaries, having read some of my articles on the divisible brood-chamber hives I have been using for several years. He has studied American apiculture thoroughly through several of the books and papers on bees and bee-keeping of this country, and is well acquainted with our hives, appliances, and methods of management. However, it has been a hard matter for him to decide which hive to adopt, since there is such a difference of opinion expressed in these books and papers. He had almost decided to adopt the regular standard Langstroth 10-frame hive when articles like those of Alexander were read; while, again, such articles as those by Stachelhausen, Hand, Chambers, and those by myself on the divisible brood-chamber hives and their advantages, changed his views and left him without knowing what to do.

He gives a description of the character and the conditions of the surroundings under which the honey crop is obtained, and the time of blooming of the sources from which the honey-flow comes, viz.: White clover blooming from June 15 to July 15; basswood latter part of June to end of July, and soon followed by the main source, the heather, lasting until Sept. 15. The bees are moved to the heather fields, which are from 3 to 10 kilos distant from where our correspondent resides.

The honey from white clover and basswood is extracted, and the heather honey being too thick to be extracted, is mostly sold in the comb, the combs being cut from the "skeps" or frames. Sections are unknown.

He further questions me in regard to using full sheets of comb foundation in shallow frames for bulk comb honey—whether comb honey built from such is not found "gobby" when eaten. Examinations of the apiaries are made every 6 or 8 days, no person being with the bees between these visits. I might add that my correspondent favors a hive like the one described by me, but wishes my opinion.

Now for *my* advice: Since I have had such excellent success with the divisible brood-chamber hive, I would certainly adopt it where the conditions are like those given, but whether this kind of hive is *best* for the other fellow is better found out by first giving a few a *thorough* trial. That is the way I began, with no great visions before me to begin with, but the actual practise and the success with them *gradually* induced me to increase the number in use.

Since *both* comb and extracted honey are the products of my dozen apiaries—much like that mentioned by the enquirer—the circumstances in both cases are about the same. Here extracted honey is first obtained in this wise: As soon as the colonies begin to get crowded room is given, not on top but *between* the upper section partly full of honey and lower one of the brood-chamber. When this is done the season is already well advanced, and, if the swarming season, it prevents swarming to a surety. The middle case is soon filled with brood, and the scattering honey over that used up by the bees is carried above into the upper case, now an extracting super. With a deeper hive, or the Langstroth, room could not be given in any such way except to set a shallow super on top. But unless the crowded condition of the *brood-nest* is broken up and laying-room provided, swarming will go on just the same; or the time-taking, tedious handling of frames must be resorted to.

If full-depth supers are used, combs can be lifted up and exchanged for empty ones, but I prefer the shallow supers; besides, the large supers would be too large for our purpose unless the extracted honey-flow was a very good one. Then the handling of the frames takes more time.

With the shallow extracting-super on the hive nearly full, a second one is given if needed before the flow for comb honey begins. Our object should be to have one super well filled on every colony by this time that is to store in the comb-honey supers. Just before the flow begins these supers are given *between* the full extracted honey super and the brood-chamber. Starters only are necessary in these, as the bees will be secreting, and have an excess of wax from the work done in the extracting-supers, and work will begin *at once*, so that by the time the main flow begins, the combs will be partly drawn out ready for the honey. This is an ideal condition to get fine comb honey, and built out excellently. The brood-nest will not be clogged with honey, but brood instead, and the colony will come through stronger with a lot of young bees for any subsequent honey gathering, either surplus or for winter stores.

The advantages of shallow supers are well known to many bee-keepers, even to some of the opposers of the divisible hive; but just here is where the divisible hive makes the shallow supers more valuable, in that they can be interchanged. For extracting supers I prefer them. Their first cost may be slightly more, but "I soon get that out of them." Lighter weight foundation can be used in full sheets, and without wiring. If starters are used there is not so much drone-comb. When filled the honey is removed by *cases*, in a wholesale way, in a short time. No use in trying to get around that. In uncapping *I know* I can uncap 2 of these faster than a deep comb, and 2 of my shallow combs hold more honey than one of the Langstroth size.

For bulk comb honey they are the best (and most extensively used). Weaker colonies will often fill one of these when they would not even have begun in a deep one, and this holds for all colonies during a short flow or in a bad year. Besides, deep frames can not be filled with full sheets of foundation light enough for comb honey, for it will be "gobby." Even shallow frames are better with starters only, especially when used under full supers of extracted honey, as already mentioned. This also answers our correspondent's question. Such supers of comb honey are also taken off in a wholesale way just like the extracted honey.

Who would think of producing section comb honey in anything but shallow supers of one tier of sections and the tiering-up system? Hence, I see no reason why the same should not be applied to extracted honey, for it is used in bulk-comb-honey production. My advice is to try a few such hives first and compare them with the others.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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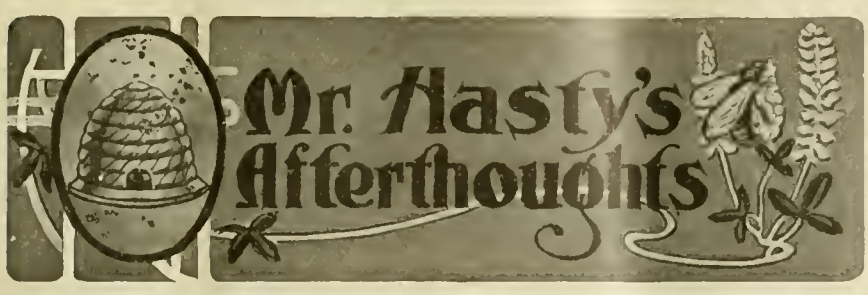


The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Requeening a Laying-Worker Colony

It is so seldom worth while to save a colony with laying workers and try to make it accept a queen, that we might well afford to ignore the whole subject so far as direct profit is concerned. But if one brother succeeds and the rest of us mostly fail, we ought to be stirred up a little to find out the reason why. Can't afford to let our knowledge-box go empty. H. Piper, who evidently knows what he is talking about, has a method which he says succeeds every time. Queer that such simple variations should make such a difference. First, the queen must be an old one. Second, she must be as hungry as she can well be without getting weak. Third, put her on comb where she can't find any open honey to help herself to—and not in any crowd of bees. Watch and boss matters until you see her accept honey from the bees, and be sufficiently fed. Then quietly close up—they won't kill her after that. Well, what is there in this, I wonder? Puts her under slight bonds not to misbehave herself—that's good so far. Stomach well filled with food just regurgitated by citizens, makes her a little more at one with the other citizens than a meal drawn out of a cell could do. (Breathing exactly the same kind of onions that the rest breathe!) And why an old queen? Is it that young queens have a great deal more of the *ineradicable individualties* of odor? Possibly have also learned in their lives to be more *tolerant* both of manners and smells. Still, I would not have predicted success for the plan. If it's all right, something profitable to ordinary introduction ought to come out of it. He properly reminds us that the colony must have some young bees in a few days, else they can't rear brood much.

It's a sharp, and probably good, idea to use on bees united from above, to get them down at the rear rather than down over the entrance. The savage bees are down at the front. Help on this improvement by turning them end for end—so they will *incline* to go down at what seems to them to be the front, but is now really the rear. Page 319.

That Tallest Bee-Keeper.

So bee-keeper Rehorst kind o' upset the State of Wisconsin with his challenge for a taller man. Also upsets the rule that giants die young, as he is 63. Upsets my notions of how much stature goes down with age. I thought it was but a fraction of an inch; and he has decreased 1½ inches. Only 6 feet 8 inches now. Of course, he upsets the old proverb, "Like master, like man." If his bees were like himself, they would be worth going to see. Page 319.

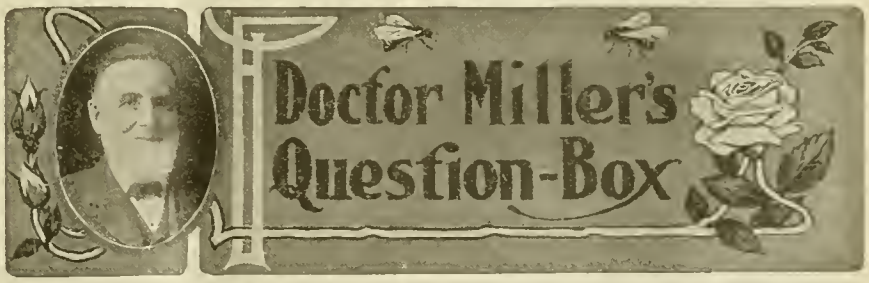
Scale Records.

A. E. Patton's report of his scale hive is interesting. And reporting gains by weeks instead of by days gives something of a different turn to the thing in reporting a quite moderate flow. Scale records, we have never had a surplus of, I believe. Page 319.

New Mouse for Moth-Larvæ—Those Mouse Experiments.

No, Mr. Pryal, we don't need to breed a new mouse to exterminate moth-larvæ. The one we now have is tip-top, as I long ago found out. And, sometimes, as in your case, he does very little damage except in digging out the small, silk-bound nests that get formed. But I fear it won't do to assume in advance of experiment that he will do so good a job except when very hungry—which same is his normal condition when he gets into a comb closet.

I shall have to ask the forbearance of the brethren for not, even yet, repeating and verifying the important mouse experiment I gave a while ago—and for not getting to the new ones which I had in view. Be merciful to the everlasting worthlessness and do-nothingness of the invalid. But here is one experiment fresh as yesterday, that has its lesson as an experiment that went wrong: At 11 a.m. I put in the cage of two captive mice a frame taken from a starving colony. It had fresh-capped brood, and some bees scarcely dead crawled into the cells. What I expected was that the mice would eat quite a meal of the brood. What I *hoped* was that they would spend some of their leisure time pulling the bees out. Didn't do either one. What they did do was to gnaw the comb quite a bit in about five different places. Why was this thus? I had taken the comb out 6 hours after it was put in. Did they enjoy the taste of the comb as they chewed it? Or was it the simple joy of having something available to nibble? Or was it a little of both? *Hoc docet* Our theories and expectations and hopes and notions ofttimes go all to pieces the minute they run up against some simple experiment. Page 333.



Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Transferring Bees, Etc.

1. Some time ago I discovered bees in a tree after cutting it. I cut off as close on each side of their entrance as I thought I could without cutting through the honey, and brought them to the house. Can I transfer them to a hive? If so, how?

2. Must I have foundation-starters for the brood-frames?

3. Are the bees likely to swarm if left in the log?

4. The bees are dark with 3 yellow bands. What race are they? Illinois.

Answer.—The bees are likely to swarm unless they have too much empty room in the log. If so, better saw off the empty part. Then leave them until they swarm, hive the swarm in a movable-frame hive, set it in place of the log-hive, and set the log-hive close beside it. A week later set the log-hive on top the other—of course, no communication between the two. Three weeks after the swarming you can set the log-hive in a new place to build up for the next year. Or, you can cut open the log-hive and transfer into a frame-hive. If you care for honey and not increase, cut open the log-hive 3 weeks after swarming, brush all the bees into the swarm and melt up the combs. In any case the swarm is the one to count on for surplus.

If you give empty frames without starters the bees may build combs crosswise, and your combs will not be movable. Small starters will give too much drone-comb; full sheets will give all worker-comb.

If all the bees have 3 yellow bands they are likely Italians. If some have less than 3 bands, they are hybrids.

Perhaps Affected Only by Bad Weather

What is the matter with my bees? I had 36 colonies to start in the winter and lost 4. The 32 did finely in the warm spell in March, and I thought I never had had bees doing

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better; but April 1st they began to dwindle, and it looks now as if I were going to lose all of them. They look all right in color, but they can not fly. The ground is strewn with them crawling around, and they can not get on the wing. I opened the strongest colony to-day, thinking it was queenless, but found the queen and some brood, but no larvæ, and the queen had begun laying eggs, but not many. The strong colonies have lots of dead bees in front of them, and a great many not dead yet. They act as if they were poisoned, but it continues so long I fear it is bee-cholera. I have lost 13 colonies, and will lose several more if the weather stays bad and they keep dying as they have been doing. Their abdomens are natural in size and the color is natural. I do not see any young larvæ in front of the hives.

My bees were short of stores last fall and I fed them 1½ barrels of granulated sugar, and so it can not be stores. INDIANA.

ANSWER.—The probability is that there is no trouble except the terrible weather. I don't remember a spring just like it in 45 years. A few days of summer in March made the bees start a lot of brood that they couldn't care for when it froze up again, and the nurses were in no condition to stand the confinement. To-day—2 days later than the date of your letter—it begins to look as if we might have spring again in place of winter, and we will hope that by the time this meets your eye in print your bees will be on the upgrade — greatly reduced, to be sure, but healthy, and hopefully building up again.

Feeding Pollen Substitutes

Where can I get a kind of bee powder or food that is fed to bees to make them work better and produce more honey? My neighbor uses such, but refuses to tell me where he got it, or what it is. It looks something like wheat flour. Bees like it very much.

MINNESOTA.

ANSWER.—There is no sort of secret powder or food that can be given to bees to make them do more unless it be honey and pollen, and there's no secret about that. The thing probably meant in the present case is some kind of meal used in place of pollen. In the spring, when the weather is good, and yet there is no pollen to be had, set out a box or dish of any size containing some kind of meal, and the bees will take it in place of pollen. Grain of any kind ground will answer. The kind I have used more than any other is ground oats and corn—the kind that cattle and horses eat, that kind being conveniently on hand. Put a stone or block under one side of the box, and when the bees dig the meal down level, change the stone to the other side. They will dig out all the fine parts, and the coarser parts that are left can be fed to 4-legged stock. But just as soon as they can get the natural pollen they will desert the meal-boxes.

Cold Weather for Bees—Rearing Queens—Brood Foundation—Hive-Covers

1. Is this steady cold weather liable to hurt the bees very much?

2. I also have a select breeding-queen which I bought last spring, and would like to rear all young queens from her. How would it do to build this colony up strong early, make them queenless, and after they had started queen cells divide them into about 7 nucleus colonies, and then when my other bees swarm unite each swarm with one of these nucleus colonies, letting the bees run through a queen-excluder and catch the queen and put her back into the old colony, move that to one side, cut out all queen-cells, and set the new swarm where the old one stood, and after 10 days remove the old colony to another stand? If this plan will not work, will you please give me a better one?

3. What kind of brood-foundation do you use, and how many sheets does it run to the pound?

4. How would you have your hive-covers made if you were buying new hives? I want to increase to 12 or 14 colonies this year.

MICHIGAN.

ANSWERS —1. Yes, in some places there has been a confinement of 3 weeks in April from continued cold weather, and there is danger that not a few colonies, reduced at this time of year to their smallest numbers, will have all stores within reach eaten, and will starve with plenty of honey in the hive.

2. If your bees don't get to swarming before you are ready for them, the plan will work. By adding combs of brood from other colonies you can have your best colony occupy 2 stories. Then you ought to be able to get your queens started in fruit-bloom, as this is supposed to be very abundant in your region. I have worked the plan a little differently. Queens were clipped, and when the swarm issued the queen clipped was picked up, the nucleus set in place of the old colony, allowing the swarm to return and enter the nucleus of its own accord. This always succeeded, but some others have said that their queens were killed by the returning bees. If this should happen with you, you could cage the queen in a provisioned cage.

3. Medium brood, running 7 or 8 sheets to the pound.

4. "I'm not sure whether I'd get the kind I now have, or try rubberoid or something of the kind that might cost less. The ones I have are double, an upper and a lower part of ⅜ stuff, ¾ inches apart, so as to leave an air-space between, covered with tin or zinc. The only objection is that they cost about 30 cents each.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 376)

CAUSE AND CURE OF BEE-PARALYSIS.

"What is the cause of bee-paralysis, and what is the best cure?"

Mr. Coggshall—I have been where it is. Mr. Poppleton has it in Florida. He can not cure it; the bees die about as fast as they increase, and just about keep even.

Mr. Piper—I asked that question. Of course I think I have a cure, but I would like to know the cause of it. I use sulphur as a remedy. Some recommend putting it on top of the frames. If you do you will kill the brood, though I found putting it on the bottom-board is effective, and it does not kill the brood. But of course I know there is another cure by introducing a new queen.

Pres. Dadant—I wish to say that this is an international disease; it is known in every country, although in cold countries it is less prevalent.

Mr. Anderson—I once thought that it was caused from certain flowers until I experimented with extracted honey from a few colonies. Those bees I carried through on the sugar syrup. In order to test the matter I extracted the honey late in the fall, from a few colonies, and allowed the bees to clean up the combs, and I used those combs to feed the other bees; that is, I fed the sugar syrup. I hived the bees and found them this way: Those bees that were carried through on the sugar syrup showed the disease equally as bad as the others.

Dr. Bohrer—With regard to paralysis, my opinion is that it affects the bees just as it does mankind, and I don't know what to attribute it to. Persons are not exempt from paralysis at any age; the infant will have it, the 5 or 10 year old boy will have it, and the old man will have it, and very often when he least expects it. In fact, an old man in my settlement boasted of his good health and yet he was taken home from prayer-meeting stricken with paralysis and died the next day. Paralysis, I say, affects the nervous system, and if we can find some kind of honey that will injure the nervous system we may get at the cause. Dr. Phillips is conducting experiments along this line. I suggest that he try it. Sulphur, it is said, has cured it by being sprinkled among the bees; but I don't know whether it has.

Mr. Rankin—The last year and a half I have been in California, and most of my work has been on bee-diseases. I am not prepared to say that it is a nervous disease, but I am prepared to say that I don't know the cause, and don't know a remedy.

Wm. Atchley—I have had a little experience along that line. I don't believe that it is catching. I have tried to see if I could not affect other colonies with it, but failed. It is no doubt caused by the queen, and I have cured it by doing away with that queen.

L. Jones—I have had some experience with paralysis of the bees. Dr. Bohrer said he attributed it to the nervous system. I think it is due to the digestive system. I read an article advising the use of sulphur—just sprinkle it over the top of the frames. I had a man working for me, and we sprinkled the sulphur over the frames, and the next two or three days he said: "Look here, Jones, I believe you have killed every one of them." That was late in the fall, and the next spring the disease did not show up. Mr. Atchley says he does not believe it is catching. I don't

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know whether it is catching or not, but I would have one hive affected here, and another over there, and they would die.

A Member—I would like to call your attention to the fact that Mr. Jones has said that he sprinkled sulphur, and that he killed the bees. Is it not possible you killed the bees that would have died any way?

Mr. Jones—I don't know. After that the dying ceased, and the next spring the disease did not show up on those colonies.

Mr. Anderson—I believe my bees had that disease in Utah as well as anywhere else. At one time I went into my apiary with a Southern bee-keeper of much experience, and we noticed in the front of a colony dead bees strung out for some distance. He said: "What is the matter?" We found 3 colonies in an apiary of over 100 in just that condition. He said: "I wish you would go right to town and see if anyone is spraying trees, and ascertain what it is with." I did so, and I did not find anyone spraying. I said, "I am going to get right on a horse and go to see Mr. R., who is our county inspector." He said, "It is simply a revolution going on, and when they get that conflict finished they will be all right." I went home and inspected my bees, and was convinced that there was a fight on. This may be a mistake, but I have never seen anything like it since.

Pres. Dadant—I think it will be necessary for me to say that this is out of the question. They are not fighting, the other bees are carrying them off. This has nothing to do with bee-paralysis, or "May Disease," as the Europeans call it, and I would like to hear more about it.

Mr. Stone—Is it not a settled fact that medical men can not cure paralysis? The reason I say this is that if it can not be cured, why try to cure the disease, but just prevent the spread of it? I know a case where there was a doctor who had a daughter that was paralyzed; he went to an osteopathist and said, "I have a daughter in the same condition that I lost one two years ago; you can cure her." And the osteopathist did cure here.

Pres. Dadant—Now, we are off the subject again. We called up the subject of bee-paralysis. The gentleman said it was not a nervous disease, but a disease of the digestive organs, although we call it bee-paralysis.

Mr. Parsons—I have had a little observation along the line of paralysis for more than 25 years, and a short while ago I was looking over my journal, and I found a great many instances where colonies had been affected with it. It appears in colony No. 4, and the record stated that it was not thought worth moving, and some 4 to 6 weeks later it cast a swarm; it had built up sufficiently to cast a swarm and that swarm I found was entirely clear of paralysis. I had such a case, and kept that colony built up, and I had no return of the disease during the next season. It was our custom for a number of years, that when a colony was affected with what we call paralysis, I would take the hives off and fumigate them with sulphur, put the combs in a honey-house, distribute the brood, sometimes among the other colonies, and I would see no evil effects of it. But of late years, when I see a colony affected with it, I have to be more barbarous, so I simply cure it by fumigating the bees; but it is my opinion that it is not spread by an interchange of combs, and I know that it does get well, and remains well for one season. I have had in my yards colonies affected with it for 3 years, and they never would build up so as to gather any surplus honey. I have tried a good many treatments—nearly everything that I read in the bee-papers—but if I have ever found anything that was good, I don't know of it.

Pres. Dadant—Mr. France has called our attention to the fact that bee-diseases would be discussed Monday, and I will now call for the next question.

Dr. Bohrer—I want to make myself better understood. It is definitely known that there is a kind of paralysis that comes from the digestive organs.

Smoker-Fuel.

"Are dry rags and old bones good for smoker-fuel?"

Mr. Aten—I read in a paper that some suggest old bones and dry rags for fuel.

Mr. Holekamp—I suggested dry leaves.

Moths and Pollenless Combs.

"Will moth-worms destroy comb where there is no pollen?"

Mr. Hyde—I dropped that question in. I thought I would like to hear some of the bee-keepers talk on it. I can give my experience in a few words. Where there is no pollen there will be no moth-worm.

Dr. Phillips—I have seen it in comb foundation.

Mr. Victor—Combs with pollen are much worse than combs without pollen.

Wm. Atchley—I wish to differ from Mr. Hyde very much, as I have had them to eat up combs with no pollen in them, and have had them to destroy solid cakes of beeswax.

Mr. Hyde—In that case, was there not some comb near by, or did they degenerate?

Wm. Atchley—Why, I don't think there was any empty comb there.

Mr. Wurth—I have had the same experience as Mr. Atchley, in regard to destroying combs with no pollen in them; they will destroy them.

Mr. Stone—My experience has been like the one who asked the question. I have never known the moth to be in any of the extracting frames in my honey-house, and I have always attributed it to the fact that there was no pollen in the frames.

Mr. France—As a partial explanation of moth-worms working on wax, in many places in our State, it is the combs with apparently no pollen that are rendered into wax; and when that wax is settled, you would be surprised to see the amount of pollen in it. It is the same way with foundation. More or less pollen is in it, as in the wax. I seldom see them in new combs.

Mr. White—I want to give an experience I had last spring with the worms. During our convention in North Texas, we had a little discussion about the moth-worm. Some asked me to bring in a dry comb. As near as I could tell it was clean, smooth, nice comb, and after the convention was over I just set it back in the corner of the office, and it was left there for a few weeks; I did not move it, and I thought one day that I would put it away. The moth-worms had eaten it up, while, according to my judgment, there was no pollen in it; if any was there it was very little, and I thought then that the particles had fallen out on the floor. I had learned a lesson. I believe worms will get into combs where there is no pollen.

Pres. Dadant—I wish to correct an impression, which I consider is a mistake, given by Mr. France, that foundation contain a great deal of pollen.

Mr. France—You are mistaken: I did not say that.

Pres. Dadant—Did you not say that melted wax contained pollen?

Mr. France—I was speaking of old wax.

Mr. Jones—I have had a good deal of experience with combs and moth-worms. I have a honey-house that I put away my combs in, and I some way favor Mr. Hyde's idea. In putting away those combs I was very careful that no pollen whatever got in, but I can not say absolutely that it did not get in there. I have noticed that if there was a little brood they are just as bad to commence on it, and when I looked over my combs the moth-worm had commenced there.

Perfect Packages for Shipping Honey.

"Is there a way to educate the bee-keepers to use perfect packages for shipping honey.

Mr. Muth—It was I who put that question in. The majority of bee-keepers ship their honey to market in second-hand molasses barrels, and second-hand tin cans, and it is only those perfect packages from the West that come through without loss. Imperfect packages make high rates on freight, and unpleasant business relations, and if they can get down to new packages—if honey is worth anything at all, it would be a good idea to educate them a little on this point. As it is now, most of the small shippers ship their honey in a very careless manner. The bee-papers could do a whole lot more on that subject, but they don't.

Mr. Hyde—I thought that we bee-keepers in Texas were doing pretty well along that line the last few years. In 1902 and 1903 we had a good deal of trouble in the packages for shipping—a great deal of loss in the transit—and all sized cans and packages that could be thought of; but we bee-keepers of Texas saw that we needed some packages of the proper size, and not too many of them, so at College Station in our meeting this year, we passed upon it that a certain sized package be used, and we also recommended a heavier case. We put this before the railroad companies, and they accepted our speci-

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fications. We thought that was settled in Texas. I don't know what other States are doing. We have the two 60-pounds, and ten 12-pounds; and then we have two more sizes—the ten 6-pounds, and the twenty 3-pounds.

Mr. York—I agree with Mr. Muth, that the bee-papers could do more along this line, but the dealers should write something about the proper shipping packages. I am reminded of a shipment that came from a dealer in Wisconsin lately, in second-hand glucose barrels. And the drayman made the remark that the dealer was shipping in glucose! I think that ought to be stopped.

Mr. Muth—I have had some experience in shipping honey in glucose barrels; that man that shipped the honey in glucose barrels lacked experience; that is very customary. However, if you have a clean heart and clean hands you don't care what kind of barrel honey is shipped in. I do know positively that glucose barrels are the best for honey; they have 6 hoops, and they will hold 700 pounds of honey, net. If you will have 2 more hoops placed on them, and drive them tight, they will not leak, and you can ship them anywhere throughout this world. I have shipped them to New York, New Orleans, and many places in the South, and I will guarantee that they will stand shipment in the hottest weather; they are a perfect success if it is done right. But when you buy them from a grocer and soak them up with water, and then fill them with honey, the receiver is robbing you, they say.

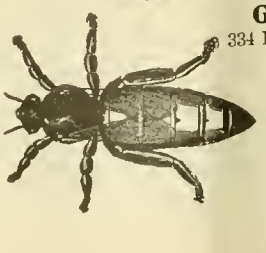
(Continued next week.)

Reports and Experiences

Destruction of Bees by Smelter-Smoke

After a severe struggle of over 2 years, we have finally succeeded in accomplishing a settlement by arbitration with the great smelter companies in the Salt Lake Valley for the destruction of the bee-industry by the poison of smelter fumes. Prior to the advent of these smelters the far-famed Salt Lake Valley was the banner county of Utah for the production of bees and honey. Ten years ago there were over 10,000 colonies of bees in the county. Now there are not 10 left. At first when bees began to die off, the bee-keepers, not knowing just what the trouble was, began to buy more, which died off faster than the first ones. Some of our bee-keepers, having done well with their bees, depending upon them for a living, did not like to give them up. These lost all, and in some instances these losses were very serious. While at first the bees thus purchased partly paid for themselves before they died, now they die off without producing anything, the writer having lost, all told, over 1,000 colonies, and a few others in like proportions.

While our bee-keepers have suffered an enormous loss, we finally compromised on a basis of $1,500 from each of the 4 smelter companies, and these figures, as compared to our loss, are entirely too low. But we started into this matter for a friendly settlement with the smelter people by arbitration, and we told them that if we did not succeed it would not be the bee-keepers' fault. And if we had entered a suit, a judgment might have been the extent of our victory, which is a poor thing to live on. But a little cash has helped many of our



Standard-Bred Italian
FREE
PREMIUM QUEENS

We are booking orders now for those **Fine Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

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bee-keepers materially. Besides, there are 2 sides to every vexed question.

In this case the smelters were made welcome, as no one anticipated any trouble from their operation. Then if we take into consideration the unforeseen complications of this long-drawn-out question, our bee-keepers realize the situation we have had to cope with, and they are very well satisfied with the final settlement reached, and I feel grateful to them for the many thanks and kind expressions for my feeble efforts in this matter. Personally, it has been one of the lights of my life. I have neither time nor space to describe the voluminous correspondence of our long and persistent efforts and determination never to "give in" short of a successful issue, and while our smelter friends gave us all due credit, they thanked us for our patience and courteous good-nature, which was mutual and thus, although it was a long, tedious affair, it was pleasant throughout.

The locating of the smelters in the center of the Salt Lake Valley was a grave blunder that should not be repeated, but instead of moving them—which certainly should eventually be done—some parties are agitating the building of others under like conditions, and one was actually built last year near the agricultural center of Weber and Boxelder counties, and a protest was sent by the bee-keepers to the company before the smelter was built. If the bees were destroyd by the smoke—which is more than likely—the bee-keepers will claim full damage for their loss. There is no question but that the smelters have destroyed, and are destroying, the agricultural industry of Salt Lake county, and it certainly should be stopped. The agricultural settlers have rights which should be respected. Their homes and farms should not be destroyed. Then let the smelters be built in or near the mountains where the smoke will seek the hills or in some other location where the rights of others will not be injured. E. S. Lovesy.

Salt Lake City, Utah, March 12.

Covered Entrances—Grass in Front of Entrances—Solar Wax-Extractor—Caucasians

About a year ago, O. L. Hershiser in a long article described his patented bottom-board. One of its virtues was to prevent colonies becoming depopulated by many bees leaving the cluster and going out through the entrance and not returning. Now it may be that things would go differently with the Hershiser bottom, but with an ordinary one I have convinced myself that it is bad to fasten a bee-tight screen over the entrance.

Last fall I made the entrances of 18 colonies bee-tight with wire-cloth. In 3 or 4 weeks after cellaring, all colonies with closed entrances made much commotion. This also stirred up others with open entrances near by. One shut-in colony acted the same as when a hive is closed in summer. All of its bees, so it appeared, were at the entrance attempting to get out. As I could not drive them to their places and tie them, and as they did not cease their attempts at getting out voluntarily, I removed the screen. They then rushed out and many flew away, and, of course, were lost forever. This colony has been comparatively uneasy until today (February 26). As the weather permitted, I gave them a flight and now hope they will "keep their mouths shut."

Those are fine California views on the cover page of the February 21st issue, but what tall grass or weeds among the hives! Does Sir Patrick not know that Doolittle claims that the yield may be reduced one-half by such obstructed entrances? I dislike to see bees pull on a spear of grass as they will when grass grows in front of the entrances. It makes me feel as if I were attempting to pull out large trees that some one else (my superior, of course) had neglected to remove, though a great hindrance to my work.

The "Canadian Beedomer" thinks a solar wax-extractor unnecessary, as the cappings can be washed of adhering honey and then melted in water. But how about pieces of dark comb that accumulate during the busy season? If not put through a solar-extractor, the residue to be rendered by the hot-water method, I have found that they will mostly be eaten up by the wax-moth larvæ, keep them where I may.

As I think many tried Caucasian bees last season, I am surprised to see so very few reports of their accomplishments. I have had one colony for 2 seasons, and that has been one too many. I dare not "kick" them as some assert they do, for they will kick back. In other words, they are not gentle as has been asserted. Neither are they as active workers as Italians. "Perhaps not pure," did you say? Well, I got the queen from the Government apiaries at Washington.

Metz, Wis. F. A. Strohschein.

Keeping Bees in Buildings

On page 318, a Pennsylvanian asks Dr. Miller about keeping bees in a back yard, also about having them in a building. In accordance with my experience Dr. Miller's answer is right. It may be interesting to other readers of the American Bee Journal to learn what has actually been done on that line. I kept from 10 to 50 colonies of bees for 26 years in a town in Lebanon Co., Pa., about 30 yards from Main street, most of them in a building with an open front; and 41 years here in Virginia, 20 years of which were in a town here. I now have 10 colonies in my barn. I cut out an opening 3 feet high on the east gable end, set the hives inside of the building and they do better than the 60 colonies right outside on the ground in pairs, not over 6 feet from the barn, 10 in a row. During this time I had 2 colonies in my house inside at the gable-end window, raising the sash 1½ inches almost right along Main street in the town. I never had any trouble nor was annoyed with the bees at the barn or here, myself and family passing daily under and between those on the ground.

I practise Dr. Miller's advice about opening the hives and working late in the day, when I can.

I find the Italian and golden strains more gentle than any other I have, or have had. Caution must be used about the mice in the barn, as I lost 3 good colonies last winter; but in the summer I have no trouble.

William Urich.

Herndon, Va., April 23.

Cold April—Slow Breeding

A very cold April here thus far, and the time which bees gained in March has probably been more than lost now. Breeding has not progressed with rapidity, and colonies are to-day with less brood than they usually are at this season. But they bred early in March and young bees have very largely replaced the old bees, and you know that this means rapid work as soon as warm weather does come. Allen Latham.

Norwich, Conn., April 21.

Report for Last Season

I now have 7 colonies. Last year I had 5, and the year before that 2; so you see I have been going slowly, as you advise. My honey crops have been: 1905, 189 sections and 61 pounds of extracted honey from 2 colonies, and increased to 5 by natural swarming (I use the 1⅛-inch plain section with 8-frame dovetailed hive; 1906, 126 sections and 46 pounds extracted from 5 colonies, and increased to 6. All was buckwheat as white clover did not yield. This is the amount of honey I sold besides what we use, which is considerable. I took my bees out of the cellar March 26. They gathered some pollen in March from willows and maples, but have not had a flight this month, as it has been cold all the time. A. Ott.

South Haven, Mich., April 17.

Chunk Honey—Queen-Excluders

I notice in the Report of the National Convention at San Antonio, last November, that the Report has me to say that I am a comb honey producer. This is a mistake. I produced something like 16,000 pounds of honey about 20 cases of which was chunk honey.

I do not use queen-excluders, and will not have them on the place, except one or two to strain out an occasional queen that I can not find. I coax my queens to lay in any part of the hive they desire. I do this to have populous colonies, and a populous colony produces a large yield of honey. I have used queen-excluders, and my experience with them goes to show that they not only restrict the queen in many cases, but retard the bees in transit to the upper story. The queen-excluder for me is a positive nuisance, and I would not tolerate one on a hive for any consideration.

As to section-honey producing, I am not in it. I hate sections worse than I do a scrap-iron pile. They are a nuisance for me from every point of view. There is at least 4 times as much work connected with their production as compared to chunk honey, saying nothing about short sections, and non-marketable sections due to a host of causes that are familiar to every bee-man of note. I took all my sections and section paraphernalia, piled it up and had a huge bonfire.

There is no trouble to sell all the extracted and chunk comb honey that you can produce, if you put it out under a positive guarantee as to its purity, etc., and back the guarantee with the money. I do not say it boastfully, but I fell short about 7000 pounds of extracted honey last season, at good prices.

Bartlett, Tex. T. P. Robinson.

A Colony That Deserted Its Hive

Day before yesterday a "swarm" of bees alighted in this town. I heard of it and could not believe it. But I went and saw the tree or bush and hunted the man that hived them, and also saw the bees. I have kept bees 50 years, more or less, and never knew of the like.

The weather is cold; no buds nor flowers have started; but a cold wind with nothing for bees to get. The man who found the bees is feeding them. Willard Mann.

Buffalo, Minn., April 25.

Mating of Bees

My bees came through the winter in fair condition, but we have had a very cold and chilly spring, and I fear much brood will be lost. I hope it may soon get warmer, and the bees make up for lost time and come out all right.

Not long ago I saw in some bee-paper that a man in England had made some experiments to get queens fertilized by attaching them to a fine thread fastened to a pole, and the writer seemed to think the plan entirely new. Now if I am not mistaken, the plan was tried some 20 years or more ago by Mr. Demaree, of Kentucky. So you see the plan was not a new one.

On page 295 (1906) Prof. Cook wrote in one of his letters from Germany, that at one time he witnessed the mating of bumble-bees, and that the act proved fatal to the male. Last summer while going through the pasture, I saw a very large bumble-bee rise up before me and fly about 50 yards and alight on some weeds. I followed it up, and, when close enough, I saw it was 2—a large female—and a smaller one on its back—I suppose a male. When I came closer they would fly some distance and alight again. They would fly away whenever I came a little too close, until finally I lost sight of them. My observations do not correspond with those of the Professor, but I did not see the finish.

Fred Bechly.

Searsboro, Iowa, April 15.

Wanted Shook Swarms, with Queen, on one frame. Safe arrival guaranteed. State kind, weight, price, and time of shipment. J. B. MASON,
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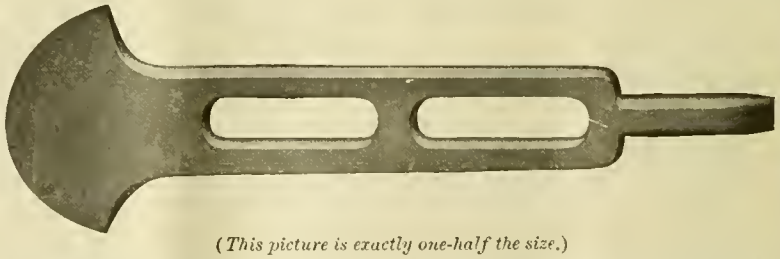

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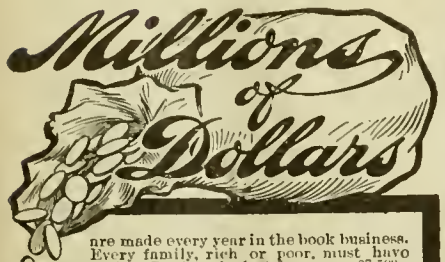

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For prices, refer to my catalog, page 29.

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Honey and Beeswax

CHICAGO, April 4.—Market is quite bare of best grades of comb honey. When sales are made it is on a basis of 15@17c, with very little outlet for the off-grades. Extracted, 7@8c; off grades, 6@6½c. Beeswax in good demand at 30@32c. R. A. BURNETT & Co.

CINCINNATI, April 16.—There is nothing new in the honey market, excepting that this part of the country is bare of comb honey, and it is well, for consumers will appreciate the new crop more when it arrives. We are selling extracted amber honey in barrels at from 5½@6½c. Fancy table honey, 8½c@9c, in crates of two 60-pound cans. For choice yellow beeswax, free from dirt, 32c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, April 25.—The comb honey market, on account of the lateness of the season, has grown just a little weaker in the last 10 days, although extracted honey is kept very firm. We think, however, there will be comparatively little comb honey carried over except in very small lots. We quote: Fancy comb honey, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy extracted honey, 7@8c; light amber, 6@7c. Beeswax firm, 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, April 12.—COMB HONEY.—There is very little doing; stock of white honey of all grades is practically cleaned up, and small shipments which arrive from time to time, find ready sale at 14@15c for choice white stock, and 12@13c for off grades. Considerable dark comb honey is left on the market, and there does not seem to be any demand whatsoever. We quote nominally at 10@11c, but in large lots we doubt whether this price can be realized. EXTRACTED HONEY.—California stock seems to be well cleaned up, and we are informed that there is very little left on the Coast, and, before the new crop is marketed, whatever is on the market now will have been consumed. The prospects in California are very good for a large crop, but nothing definite can be said at this time, and there is no surety of a big crop until it is actually gathered. Last season the outlook was just as good, but in the height of the season, cold northern winds and generally contrary weather affected the crop to such an extent that it was small as in previous years. With favorable weather in California for the next two months a large crop will undoubtedly be harvested, and if so prices will naturally be considerably lower than those of the past season and present prices. We quote white sage at from 7@9c, and light amber at from 7@7½c. Near-by, as well as Southern honey, is well cleaned up, and the markets are in good shape for new crop. Cuban and other West Indian honeys are arriving in large quantities, most of which are sold for export. The market is firm, at from 58@60c per gallon, duty paid according to quality. Beeswax firm and steady at from 30@31c.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, Mar. 30—The demand for comb honey is light, as also are the receipts. The market is about bare of extracted. We quote: No. 1 white comb, 24-sec. cases, $3.10 to $3.25; No. 2, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 28c.
C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2, selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax 32c, delivered here. C. H. W. WEBER.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

BEE SUPPLIES.

We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

THE FRED. W. MUTH CO.,
51 WALNUT ST., CINCINNATI, OHIO.

"DADANT'S FOUNDATION"

IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.

Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

DADANT & SONS, Hamilton, Ill.

SEND FOR OUR CATALOG

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago, there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville. Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S. S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobell, Glenwood.

47th Year MAY 16, 1907 Number 20

AMERICAN BEE JOURNAL

CORNER OF MRS. A. L. AMOS' APIARY, AT COMSTOCK, NEB.

APIARY OF E. E. KENNICOTT, OF GLENVIEW, ILL.
(See page 410)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
13 "	10 "	500 "	10 "
26 "	20 "	1000 "	20 "
52 "	30 "	2000 "	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
118 W. Jackson Blvd., CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$ 3.25	$ 6.00	$ .85	$ 4 50	$ 8 00	$ .95	$ 5.00	$ 8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1 10	5 50	9.50	1.20	6.00	10.00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00	1-frame Nucleus (no queen)	$1.50
Select Golden Breeders	3.00	2-frame " "	2.00
" 3-band "	3.00	3-frame " "	2.50
" Carniolan "	3.10	4-frame " "	3.00
" Caucasian "	3.25	1 full colony without queen in 8-frame dovetailed hive	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

ITALIAN QUEENS

From Pratt's and Alley's best breeders. My own 3-banded dark. Tested, $1.50; Untested, $1.00. **C. D. BENTON,**
20Alt AKIN, N. Y.

Mention Bee Journal when writing.

American Bee Journal

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

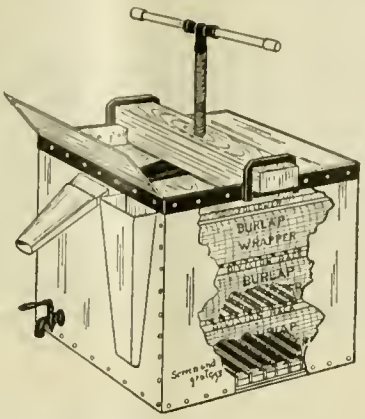
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c, or $8 a doz.; Tested, $1, or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them. We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

J. W. TAYLOR & SON
13A10t BEEVILLE, Bee Co., TEXAS.

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

Catalog for either, with instructions to beginners—Free.

29Atf **C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.**

QUEENS FOR YOU

Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.
12Atf Please mention the Bee Journal.

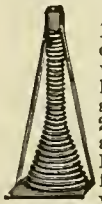
The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.
Mention Bee Journal when writing.

For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8-room house—on Wisconsin river. Address, O. C. FITTS,
10A13t KILBOURN, WIS.
Mention Bee Journal when writing.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
- CHICAGO, ILL.

"If goods are wanted Quick, send to Pouder." Established 1889

Cut Price==Anything In It?

By the Bee Crank.

Anything in it? Well, that depends. The dealer who offers to sell at cut prices is in business only for his health, and unless he happens to have a chance to make up on one article what he gives away on another, he loses out.

The other fellow—the buyer—doesn't honestly expect to get as good service and merchandise as he would at regular prices—he only thinks he does. The fact is, whether he has figured it out that way or not, he speculates on the deal, and when he gets the worst of it he is neither very much surprised nor disappointed.

No chronic bargain-chaser ever achieved much success in business. He spends more time running after them than they are worth.

I have never offered staple goods at cut prices—and yet my business has grown enormously. Good service, prompt deliveries, square treatment and careful attention to details are worth more to my customers than the questionable advantage of a few pennies saved in the price.

ROOT GOODS AT ROOT PRICES, by quick through freight direct to your station.

SEND ME YOUR BEESWAX, by freight or express, according to size of shipment. Attach your name. I pay highest current prices.

Send for 1907 catalog. It's free.

Walter S. Pouder

513-515 Massachusetts Avenue
INDIANAPOLIS, INDIANA

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

THE HATCH WAX-PRESS

If you have been so unfortunate as to lose some of your bees the past winter, or even this spring, save the wax in the combs by the use of some good wax-press. If you look about you will probably find a lot of old combs in your neighborhood which you can get for a song. Wax is higher now than for many years and you should hurry it to market, for the present high prices will likely continue but a few weeks, at most. Our new Hatch Press has several valuable features, viz :

Durability.
Ease of operation.
Most thorough in its work.
Superior quality of product.
Low cost. Price is only $6.00.

WANTED

If you know of any one who has bees to sell this month, we can probably find a purchaser for the same—any number—5 to 100 colonies—provided we are given a brief, explicit description at once. Please state condition, hives, race, price, etc.

BEESWAX

We are paying at this date 31 cents cash or 33 cents in trade for pure, average beeswax, delivered at any of the following offices : Medina, Ohio ; Chicago, New York, Philadelphia, or Washington. A large number of our jobbing agents make the same prices. See list of dealers in American Bee Journal for May 2.

BEE-HIVE PAINT

We are distributing agents for the B. P. S. Paint. This is one of the best hive-paints to be found on the market. We have handled it for 10 years or more, and do not recall a complaint in all that time. Equally good for your house or any indoor or outdoor work. We ship the O. W. (Outside White) from any of our offices; and the colors from Medina, New York, and Chicago. Send for color cards, etc.

SPECIAL

For the next 10 days from date of this paper, to test the value of these columns, we offer a copy of the book, "How to Keep Bees," price, $1.10. for only 60 cents, postpaid. Furthermore, we will promptly refund the money to any dissatisfied purchaser, even after you have read the entire book. You must send your order for this to Medina, and mention the American Bee Journal of this date.

LESSONS IN BEE-KEEPING BY MAIL

There is now, and has been for years, a greater demand for experienced bee-help than there are men ready for these places. Each winter and spring we are obliged to disappoint many large apiarists by telling them we do not know where suitable help can be found, The demand has already begun for the present season. We have found that many who take our course in bee-culture by correspondence prefer to go into business for themselves, so we still need active young men who have a fair knowledge of the subject—men whom we know something about—who can be recommended for the places frequently offered. We, therefore, offer again a limited course in

BEE-KEEPING BY MAIL.

We shall designate this as Course No. 2. The lessons are identical with the lessons in Course No. 1. The time, however, is limited to one year from enrollment. The course may be easily completed in 3 to 4 months. The following is the

OUTLINE OF COURSE NO. 2.
(17 Lessons.)

I. Definitions of Terms.
II. Inmates of the Hive.
III. Comb.
IV. Handling Bees.
V. Transferring.
VI. Building Up Colonies.
VII. The Honey-flow.
VIII. Swarming.
IX. Rendering Normal.
X. Preparing for Winter.
XI. Wintering.
XII. Spring Management.
XIII. Bee-Diseases, Symptoms.
XIV. Enemies of Bees,
XV. Establishing an Apiary.
XVI. Queen-Rearing.
XVII. General Examination.

TERMS OF COURSE—FULL CASH PAYMENT.

Complete course as outlined, lessons, personal answers to all questions, including the A B C of Bee Culture (500-page book), and Gleanings in Bee Culture (semi-monthly) for one year, $5.00.

With either the A B C or Gleanings omitted in case you have one, $4.00.

With both omitted in case you have both, $3.00.

USE THIS FORM IN ORDERING.

.....190....

THE A. I. ROOT CO., Medina, Ohio.

Enclosed find.....in payment of one complete course of instruction No. 2 in the Root Correspondence School of Bee Culture.

Name.....

P. O.....

State .....

County or Street.....

Express Office ....

PLEASE ANSWER THE FOLLOWING:

Have you a colony of bees? .....

Have you an A B C of Bee Culture? if so, what year published?..... .....

Are you at present a subscriber to Gleanings?

.....

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., MAY 16, 1907 | Vol. XLVII—No. 20

Don't Start Queen-Cells in Nuclei

A ripe queen-cell may do all right in a nucleus, and a virgin issuing from a nucleus may be fertilized all right, and may be all right for laying; but the beginner should be cautioned never to think of using a nucleus in which to start queen-cells. To be sure, a weak nucleus will start queen-cells, and such cells will cost very little, but they will be worth still less than they cost. A full colony is none too good to be used for starting cells. The growing larva should have all possible advantage of full warmth and full feeding. Only so can a good laying queen be counted on when it comes to maturity.

Lebare Treatment of Foul Brood

Mr. Jas. Lebare submits the following treatment, which has been successful in his hands:

1st. Remove queen.
2d. Allow the colony to rear a queen.
3d. Three days old. Kill virgin queen.
4th. Take a small piece of brood from a choice colony containing only larvæ one or two days old, and insert same about the center of one of the worst affected combs. Now from the time of taking out the old queen till the first virgin is 3 days old, will be 18 days.

5th. Now you have queen-cells started. When the cells are capped over on the 8th day, take every comb from the hive, and every cell of that which contains life will be hatched, and if any cells are found still sealed up, uncap them, as I find the bees are too slow to uncap affected cells. Then I find that the bees will clean all germs from the comb. I have had the bees to cut the comb down to the bottom of the cell, and when their choice cell is hatched, undoubtedly the colony will be clean, for I have never failed by this treatment. JAS. LEBARE.

If this treatment should prove successful on further trial, it would have the advantage of saving the combs. It will be objected that the colony will be reduced, because it will be 5 weeks or more from the time the queen is removed until the new queen begins to lay; also there will be danger that in the final examination some sealed cells may be missed, to say nothing of the trouble of examination.

Of course, it remains to be seen whether others will succeed with the treatment.

How to Start a Nucleus

Whatever may be best for the man who rears queens to sell, whether baby nuclei or what else, for the average bee-keeper who merely rears queens for his own use—and it may be said in passing that even the man with only a few colonies should have nuclei for rearing queens—for the average bee-keeper it will generally be found best to use for nuclei the same frames and the same hives that he uses for full colonies. It avoids the necessity of any separate fixtures, it is more convenient, and with hives and frames of regular size it is easy to build up into full colonies, or unite in the fall.

Starting a nucleus is not a very complicated matter. Take from any full colony 2 or 3 frames of brood with adhering bees and put in an empty hive on a new stand, and there's your nucleus. Only without any precaution it may not stay a nucleus, for when you look next day you may find nearly all the bees gone, the brood chilling, and the whole an easy prey to robbers.

So it is necessary to take steps to see that the bees stay where they are put. Fasten them in for 3 days or so, and by that time they are so accustomed to their new place and conditions that they will remain when the entrance is opened. Some close the entrance with green leaves, grass, moss, or something of the kind. The bees will dig open the entrance in good time, with the advantage that at first only a single bee can pass at a time. If the bees are taken from a queenless colony they are more inclined to stay put.

A single frame of brood with adhering bees may answer, but it is very much better to have 2 or 3. It is well that a large proportion of the brood be sealed. The hive may be filled out with empty combs, or there may be only a single comb each side of the brood, the whole at one side of the hive, a dummy next, and the rest of the hive left vacant. Unless plenty of honey is to be found in the frames of brood, there should be some honey in one or both of the frames next to them.

It is not wise to start a nucleus generally before the time when bees begin to make preparations for swarming. The entrance should be closed down very small, allowing only a bee or two to pass at a time until they appear to be crowded.

If a sealed queen-cell be given to a colony, it may be 2 weeks before the young queen gets fairly to laying (double that time if the first virgin is lost on her wedding-flight), and it is economy to have this time spent in a nucleus rather than a full colony. Besides, it is a great convenience to have a laying queen in a nucleus, ready to be used whenever and wherever needed.

Stock-Car for Shipping Bees

Never make the mistake of using a box-car in shipping bees on a railroad. It is too close. Use a stock-car. So advises E. D. Townsend in the Bee-Keepers' Review.

Getting New Subscribers for the Bee Journal is something that almost any reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

American Bee Journal

Dr. C. C. Miller and Wife made this office a pleasant call last week, when in Chicago. The prospects for bees in his locality (66 miles northwest of Chicago) are anything but encouraging, on account of the late, cold spring. His bees wintered fairly well, but many were lost during the recent cold spring weather. Both the Doctor and his good wife were apparently in good health.

The Apiary of E. E. Kennicott appears on the first page this week. Mr. K. wrote as follows concerning it on April 29:

I started last fall with 28 colonies. One lost its queen, and one was robbed in March during that warm spell, so I have at present only 26 colonies in good condition.

I enclose a postal card picture of one row of hives in winter quarters, and the house in the background. I set the hives in a row about 3 inches apart, facing the south, then I cover thickly with leaves, filling each super with dry leaves, and cover over all with leaves, and set boards against the leaves to hold them in place. I have had fine success for 3 years. E. E. KENNICOTT.

Dr. Phillips "Apicultural Investigator."—Last week we received the following announcement from the Bureau of Entomology, at Washington, D. C.:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—I beg to announce to you that the apicultural investigations of this Bureau are now in charge of Dr. E. F. Phillips. I would also announce to you the appointment of Dr. G. F. White as an expert in bacteriology, Mr. Franklin G. Fox as assistant in the apiary, and Mr. Burton N. Gates as collaborator in Massachusetts.

Yours very truly,
C. L. MARLATT,
Acting Chief of Bureau.

We believe all the appointments mentioned will give great satisfaction to bee-keepers everywhere. Dr. Phillips is already widely known among bee-keepers, having filled Mr. Benton's place in the Bureau of Entomology while the latter was traveling in foreign countries in the interest of apiarian investigation.

"When We Meet on That Beautiful Shore."—We have just received a copy of a very delightful and pleasing sacred song and chorus called, "When We Meet on That Beautiful Shore," composed by Samuel H. Speck. This is certainly one of the sweetest home songs ever published. It is especially suitable and adapted for the home, church and choir use, being also nicely arranged as a fine quartette for mixed voices. Retail price, 50 cents per copy. *Our readers* will receive a copy post-paid by sending 10 cents in silver or postage stamps to the Globe Music Co., 17 West 28th St., New York, N. Y.

The Simplex Bee-Hive.—A bookle setting forth the merits of the Simplex Bee-Hive, invented and patented by Carl Ludloff, of California, has been received at this office. Closed-end frames tied together with cords form the hive, protected by a straw mat, making it very close and warm. It varies no little from hives in general use.

The Minnesota Foul Brood Law, as recently passed, is as follows, a copy having been sent us by Chas. D. Blaker, Secretary of the Minnesota Bee-Keepers' Society:

A Bill for an Act to create the office of Inspector of Apiaries; to provide for the suppression of contagious diseases among bees and to appropriate money therefor.

Be it enacted by the Legislature of the State of Minnesota.

SECTION 1.—The Governor shall appoint for a term of two years a State Inspector of Apiaries. Said Inspector shall, when notified of the existence of the disease known as foul brood among apiaries, examine all reported apiaries and all others in the same locality, and ascertain whether or not such disease exists, and, if satisfied of its existence, shall give the owner or person who has charge of such apiaries full instructions as to the manner of treating them. Within a reasonable time after making such examination, the Inspector shall make another examination thereof, and if the condition is such as in his judgment renders it necessary, he may give notice to the owner or person in charge of such apiaries, prohibiting the sale, barter, or removal of any bees, honey, or appliances from such affected apiary.

SEC. 2.—After inspecting infected hives or fixtures, or handling diseased bees, the Inspector shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect any portion of his own person and clothing, and any tools or appliances used by him which have come in contact with infected material, and shall see that any assistant or assistants with him shall likewise thoroughly disinfect their persons and clothing and any tools and implements used by them.

SEC. 3.—Any bee-keeper who shall be aware of the existence of foul brood in his apiary, or who shall receive notice from the Inspector as provided in Section 1 of this Act, and who shall sell, barter, give away, or remove any such apiary or any honey, appliances or bees from such apiary, and any bee-keeper who shall refuse to allow the Inspector to examine his apiary, honey and appliances, shall be fined not less than $10, nor more than $50, or be imprisoned in the county jail not less than one month nor more than two months.

SEC. 4.—The Inspector of Apiaries shall make, at the close of each calendar year, report to the Governor, stating the number of apiaries visited, the number of those diseased, and treated, the effect of such treatment, and the disposition made of such apiaries.

SEC. 5.—The compensation of said Inspector of Apiaries for services and expenses is hereby fixed at one thousand dollars ($1000) per year, and there is hereby appropriated out of money in the State treasury, not otherwise appropriated, the sum of one thousand dollars ($1000) each year for the maintenance of said Inspector of Apiaries.

SEC. 6.—This Act shall take effect immediately after its passage.

We wish to congratulate the bee-keepers of Minnesota on their success in getting this much-needed law. Now with the appointment of competent inspectors, and the right kind of co-operation with them on the part of the bee-keepers, Minnesota should be able to keep down the disease of foul brood among bees, and perhaps stamp it out altogether.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

The San Antonio Convention Picture is a good one. It shows over 100 of those in attendance. We are mailing them, unmounted, for only 60 cents. They can be mounted by a local photographer for only 10 or 15 cents more. We will mail one of these pictures with the American Bee Journal one year—both for only $1.40. Send all orders to the Bee Journal office.

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No. 5—Feeding and Feeders —Top Feeders

BY C. P. DADANT

This is the most common method of feeding. Probably the most extensively used top feeder is the Miller feeder, devised by Dr. C. C. Miller, and described by him in "Forty Years Among the Bees." The manufacturers make the Miller feeder a little different from the original used by the inventor. The Miller feeder is all in one, and the bees have access to the feed from both sides, while the copy is made in two parts, with the ascent to these in the middle, right over the brood. At first sight it looks as if this were the better way, since the ascent is where the bees can reach it from the center of the brood-nest, and better guard it against robber-bees; but Dr. Miller does not agree to this, and says:

"I thought it was an important improvement to allow the bees to go up the middle instead of up the sides, because the heat ought to be greater at the middle. After a thorough trial of the two, side by side, I am obliged to admit that the improvement is one in theory only, and that the bees go up the sides whenever they will go up the middle, and it seems a little better to have to feed all in one dish."

Feeding granulated honey over a piece of paper on top of the frames, at the back of the brood-nest, is quite practical because the quilt may be allowed to drop back on this food, and close the top as soon as the food is removed. But for stimulative feeding granulated honey is probably not so good as liquid warm food, because it is very thick and will force the bees to go in search of water. Honey in extracting-super combs may be fed to the bees when the colony is powerful, but will not do for a weak colony because it leaves the upper story open and causes loss of heat.

A very cheap and convenient feeder which brings the food right over the cluster is made of a fruit-can with a cloth tied over the mouth of it and inverted over the combs. The can must first be inverted over a dish or a pan, with two small cleats under it, to let the first flow of liquid come. It is kept in that position till laid over the frames. At first the honey comes very freely, but when the atmospheric pressure acts the liquid stops running through the cloth and is taken by the bees only as fast as needed. The pepper-box and Hill feeders are similar, only they have a perforated-tin cover which allows the feed to come through. But the ordinary tin-can feeder, made of any round tin can which has been emptied of its contents, is fully as good as these, because when the bees have emptied it they will gnaw through the cloth and get the very last drop of liquid. It is, however, quite a little more trouble to prepare it for use. Cloth must be used which is thick enough not to let the air pass through, as otherwise the food would continue to leak through after inverting and would waste. The bees must be able to take care of it or the feeder is a nuisance. The greatest objection to the inverted tin can as a feeder is that it allows the heat to escape in the cover unless a honey-board is used in connection with it.

As honey-boards are used by us only with bee-escapes when we wish to remove the supers, and as we use the cloth and mat only, at all other times we have devised a honey-board to serve alternately with the bee-escape or with the feeders. This does away with the necessity of having two sets of honey-boards in the apiary. When the feeder is used the round plug carrying the escape is temporarily removed.

In the use of tin feeders care must be taken that they be not allowed to rust. During the fall of 1906, one of our men used a lot of feeders that were rusty inside. The feeding was done late, about the last of October, and a number of colonies fed for winter left a portion of the food in the feeder for 2 or 3 weeks before it was stored in the combs. The result was a darkened syrup instead of the clear food which ought to have carried them through in good health, and a number of the colonies—perhaps every one of those which were fed out of rusty feeders—were killed by diarrhea.

Two expensive lessons were thus secured: First, that it is advisable to feed before the weather becomes cold enough to interrupt the taking of the food by the bees. The other, the rusty cans must be carefully avoided.

The ordinary quart can which is now so plentifully used for all kinds of preserves and canned vegetables, and which is usually thrown away after being emptied, need never be used more than once for feeding the bees.

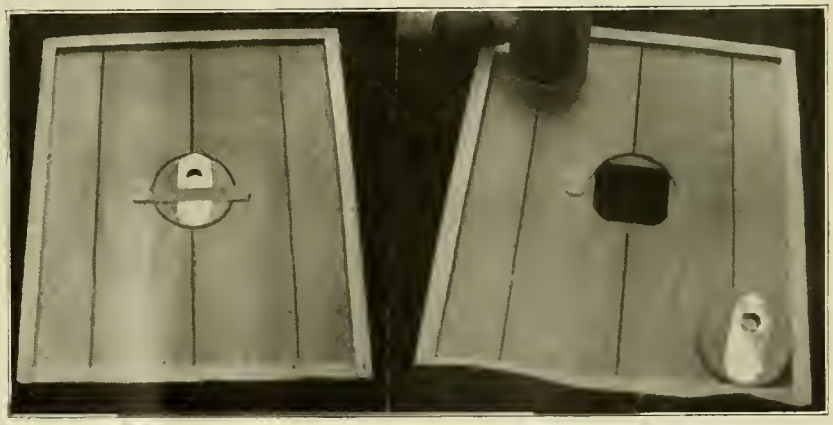
Hamilton, Ill.

Lyman Method of Swarm-Control

BY W. C. LYMAN

How to get the best results from my bees in a rather poor location; how to control swarming, and to run for comb honey as easily as for extracted; how to keep the colonies strong, and at the same time contented; and to be able to do this in an out-yard as well as at home; how to do it all with only a little labor, comparatively, and without cutting or changing my hives in any way, and without many extra fixtures—to develop a system that would apply to any standard hive, has been a pretty large problem over which I have studied a good deal, and have tried in a number of ways to solve.

Also, I have made some progress, and with the help of the photographs which I have taken of the hive-parts and fixtures which I am now using, I will try to make plain my method.



Bee-Escape Board Used for Feeding Bees.

Fig. 1 shows two bottom-boards, of the kind I use and prefer, placed as shown—front end to front end, and the ⅞-inch bee-space-side up on a stand from which I have just removed the colony which I wish to manipulate. When to do this work must be left to the judgment of the bee-keeper, but I usually do it about the time when a shaken swarm should be made to prevent swarming.

Fig. 2 shows a false bottom made of galvanized iron, leaning against, or held up by, a short piece of board, and these two articles are all that are required in my plan for the manipulation of a colony. The false bottom, as I use it for the 8-frame hive, is made by cutting a sheet of galvanized iron to measure, 21 inches long by 12 inches wide, and nailing to it on the underside

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pieces of wood ⅜ inch by ⅞ inch, and 21 inches long, one piece being nailed to each of the sides of the iron, as shown in the illustration.

Across one end of the iron sheet—on what is to be the upper side—is nailed a ⅜ inch by ⅞ inch strip of wood 12 inches long, which completes the false bottom.

The short piece of board shown in Fig. 2, is used to lay on the front end of the rear bottom-board, to close up the space between the two brood-chambers, when the manipulation of the hive is completed, as shown in Fig. 4. It is 2 inches by 14 inches long.

Fig. 3 shows the false bottom dropped into its place in the front bottom-board of the two shown in Fig. 1. This false bottom does not fit tight against the bottom-board at B, but is drawn a good bee-space back toward A, so that bees running under at A can emerge at B; that is, the false bottom forms a sort of bridge for bees to run under and come out at B. The strip of wood on the back end and upper side of the false bottom at A closes all exit in that direction for the bees, when a brood-chamber is set on the front bottom-board, and the space between the two is closed by dropping in the little board

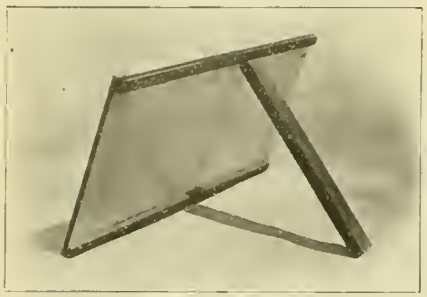


Fig. 2.—False Bottom and Closing Stick.

shown in Fig. 2; all egress for the bees from the rear brood-chamber is under the false bottom in front.

Fig. 4 shows the arrangement of the hives completed.

The entrance of the hive marked 11 is in the usual place, and is the only place where bees can get into that hive. The entrance to the rear brood-chamber, marked 1, is just in front of the entrance to hive 11, and is shown by a dark line in front of the entrance to hive 11. This is also the only place where bees can get into or out of the rear brood-chamber.

Now in practical use I find that very few of the bees which come out from the rear brood-chamber locate the place where they come out, but instead locate the entrance to the front hive. In fact, the hive is "all one to them," as it is to all the bees which fly from either brood-chamber.

The idea that they would not locate the entrance to the rear brood-chamber, I took from the fact that it is more natural for bees to go up into a hive, as they are in the habit of doing through a short passage-way, than it would be to go down and under through a long one, and it works that way in practise. But to get *out*, they will go

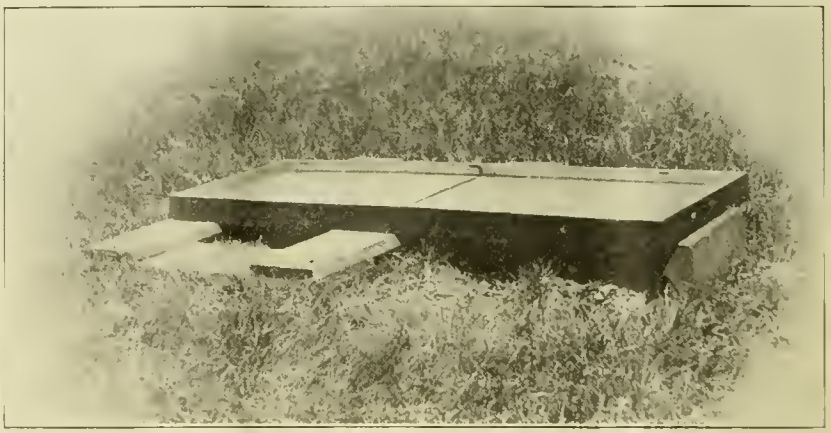
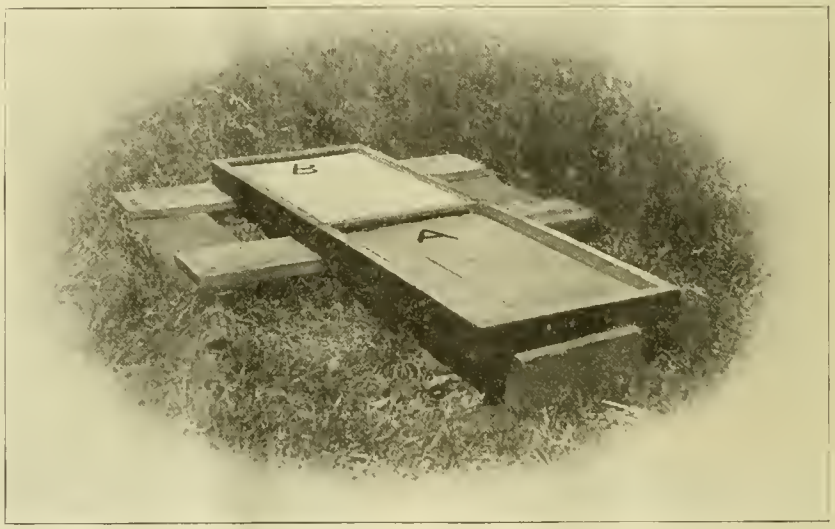


Fig. 1.—Two Hive-Bottoms Facing.



3.—False Bottom in Place.

Fig. 4.—Complete Hive-Arrangement for Swarm-Control.

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in any direction *toward the light* for a considerable distance.

But to go back to the manipulation of the hive: All the work of arranging the bottom-boards which I have described is supposed to have been done on the stand of a strong colony of bees, or one about to swarm, and which has been set off its stand for the purpose. The first thing to do after arranging the bottom-boards as described, is to put on the front one a brood-chamber arranged as for the hiving of a natural swarm, with frames of foundation, or combs, as the bee-keeper may think best, and on it put the supers, bees and all from the removed hive. Back of this, on the rear bottom-board, put the brood-chamber of the removed hive, containing the brood and queen, and close up the space between with the piece of board described.

In Fig. 4 the prepared brood-chamber is marked 11, and the one containing the brood and queen is marked 1. Next remove the queen from 1 and put her (and perhaps a few of her bees for company until enough return from the field) into hive 11, put on the covers, and see that all the parts are closed up bee-tight except the entrances, and the work is done.

I still use a queen-excluding honey-board, which is shown in dark color on the hive in Fig. 4. There are reasons for this, but I will not take up that part of the subject, nor other details of management, for that must be according to location, the size and kind of hive in use, etc., and if any one wishes to try this method he must arrange those things to suit himself.

E. F. Atwater, in the February Bee-Keepers' Review, tells of his method, which is similar to this, and speaks of putting a comb containing water into the brood-chamber containing the brood. I believe that is an excellent idea, and I will try it in the future.

So far this method is the most satisfactory of any I have tried, in meeting all the requirements of both comb and extracted honey production, and if any one thinks well enough of the plan to try it, I wish he would report result to the American Bee Journal, no matter if it is a failure, for by failures we often learn to succeed.

One thing I forgot, which is, that I think it is best to cut out the queen-cells before they hatch, that will be built in the rear brood-chamber, for the bees will agree better when they come together at the entrance; but the queen-cells can be left long enough to make use of them in the bee-yard, if required.

Downers Grove, Ill.

Conducted by Emma M. Wilson, Marengo, Ill.

Beginning Bee-Keeping—Management of Swarming

My Dear Miss Wilson:—I always look forward with pleasure to the arrival of my bee-paper, and enjoy very much the Sisters' department. And now I feel inclined to "speak in meetin'."

In early childhood an uncle kept bees on my father's place, and having been stung a few times, I regarded the bees with fear and terror. I well remember my feeling of relief when at last they were taken off the place.

In later years my eldest son contracted the "bee-fever" by association with a neighbor bee-keeper; and yielding to his importunities, I bought 3 colonies very much against my inclination. As we knew nothing about the management of bees, papers were subscribed for and books procured, and we read with increasing interest of the various manipulations to be performed. He would put on the veil and gloves and go out to manage the colonies, while I would look out of the window and counsel him what to do. But this did not satisfy me long, so I donned the togs, and timidly ventured out to investigate for myself; but it was with fear and trembling. It required all my self-control when I heard the bees buzzing around me, not to drop things and run, and I had frequently to reassure myself that they couldn't possibly get at me anywhere. Yes, and it was cruel the way we smoked them.

Our neighbor had said the bees were pure Italians, and we knew not differently; but after sending off for a few pure queens, and watching their bees as they hatched, we soon discovered that our first colonies were mostly blacks, with only a little Italian blood.

Our mistakes that summer were many, and considering the good instruction in our papers and books, some of them were inexcusable. My son was stung several times, and after the bees had crawled up his pant-legs, he said "two in one pair of pants was too many," and he finally gave up the whole business of bee-keeping to me.

That winter we lost all our bees—the result of our mismanagement; but my interest was aroused, and the next spring I sent off for nuclei, and started again. I am not so fearful now, and I greatly enjoy my pets.

As my bee-keeping has to be sandwiched in between household cares, poultry-raising, the care of an aged mother, and the general oversight of a large farm (I am a widow), I have little time to hunt queens, and the question of swarming has been studied by me most earnestly. I have finally settled on a plan that is a combination of the ideas of several prominent bee-men. I think I can give credit to Mr. Doolittle, Dr. Miller, and Mr. Alexander, and I have added some thoughts of my own. The main feature of my plan is a piece of wire-screen the size of a queen-excluder, with 4 holes (one in each corner) large enough for one or two bees to pass through. These are covered on the lower side with West queen-cell protectors, and on the upper side with a piece of queen-excluder. This, placed between 2 hives with the cell-protectors pointing downward, will allow all the bees in the upper hive to go below, and the queen-excluder prevents it becoming clogged with drones. For transferring from hives with crooked combs to those with straight combs it is unequalled, only a new queen must be provided, or the old hive taken to pieces when the bees are all out, and the queen hunted and run in below. In which case the brood is lost.

Now my plan of management is somewhat variable, depending upon what I wish to accomplish. I hardly think the extractor-man would care for this device, but it is all right for comb honey.

We will suppose that hive No. 1 is full of brood and in need of more room. If I have plenty of time and want to save all the brood I manage this way: Set hive No. 1 off its stand on a box or wheelbarrow near at hand, and put hive No. 2, supplied with frames of foundation or starters, in its place. Now place hive No. 1 on hive No. 2, and smoke the bees until they have nearly all gone down into No. 2, and we hope the queen is with them. Remove No. 1 quickly—before the bees have time to boil up into No. 1—and place a queen-excluder on top of No. 2, replacing No. 1 on No. 2, with the excluder between. This, I believe, is Mr. Alexander's plan of saving the brood, only he shakes the bees down instead of smoking them. I have lost queens that way, and it takes more time, but it is more certain. I think Dr. Miller has somewhere suggested smoking, but if smoked down the frames must be examined in a day or two for eggs to see where the queen is; and if she is not below she must either be smoked or shaken down. If the smoking was well done, she will nearly always be found below—"*in this locality.*"

In 5 days after the queen has been placed in the lower hive I remove the queen-excluder, replacing it with the screen above described—or "bee-sieve," as I call it—and in 3 weeks hive No. 1 is empty of brood and bees.

If you want increase, Mr. Alexander's plan is all right just as he gives it.

After the brood in No. 1 is capped remove it to a new stand, and supply it with a good queen. But if you are a comb-honey man, and your time is worth more than the brood, and if you don't care for increase, place the sieve between the 3 hives at the first operation, and either introduce a new queen to hive No. 2 in any way that recommends itself to you, or the next day or two you can easily find the queen in hive No. 1, and run her into No. 2. She will be accepted, as she has the same scent.

If the honey-flow is on place the super with sections between the two hives, with the sieve between it and hive No. 1 now on top.

If your bees get ready to swarm again just change—putting hive No 1 below and No. 2 above, using the sieve as above.

I think I am indebted to Mr. Doolittle for the suggestions which led me to plan the bee-screen.

Please tell Mr. Aikin (page 261) that I think the rhyme he referred to, but could not remember, ran something like this:

"Some water and oil one day had a broil,
As down in a dish they were dropping.
They would not unite, but continued to fight
Without any prospect of stopping.

"Mr. Pearlash o'erheard, and as quick as a word
He jumped in the midst of the clashing;
And all three agreed they united with speed,
And the soap was created for washing."

I would like to close with a stanza which bee-keepers would do well to think of in a bad year.

"The inner side of every cloud
Is always bright and shining;
I therefore turn my clouds about,
And always wear them inside out,
To show the lining."

Mrs. Emily H. Hafford.

Fennville, Mich., March 31.

You have evidently been doing your

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share of thinking and planning, and isn't there a lot of fun in it?

You seem to prefer smoking to brushing or shaking in getting the bees from the upper to the lower story, with the chance that you may have to operate the second time to get the queen down. As the queen is the only member of the family you are very particular about, unless you have an antipathy to finding queens, it might be easier to find the queen and run her into the entrance below. This would avoid the possibility of a second operation, and there would be no need to look in 2 or 3 days to learn the location of the queen.

You put supers under hive No. 1, allowing the bees from above to go down into the supers of sections. Please tell us what effect that has on the sections. When we tried it the capping of the sections was considerably darkened. Of course, if the combs in No. 1 were quite new it would make a difference. Ours were old and black.

Thanks for helping out Mr. Aikin's memory.

Miller Frames—Anti-Swarming and Extracting Management

I am making some Miller frames as described in "Forty Years Among the Bees," page 82, and filling them with foundation just as Dr. Miller says he does. The foundation is 8⅛ inches wide, but instead of using splints I mean to use medium-sized broom-wire, first taking the temper out. The bees will rear brood over this wire, and there is no ridge over it as shown over Dr. Miller's splints. I will then stretch 3 No. 30 wires lengthwise of the frame. This is an experiment with me, and I would like to know any objections there may be to it.

Then when the honey-flow comes for good, and the bees are at their best before swarming, I plan on filling an empty hive with these frames, placing it on the old stand, the old hive in front of it with entrances together. Then I put excluder-zinc over the new hive, and a hive-body on that. Then brush the bees from the brood down in the old hive, allowing them to go into the new hive on the foundation, and put the brood above, but keeping out one frame, and spacing the rest equal distance apart by guess so as to fill up the hive. After 8 days cut out the queen-cells.

My idea is that this will start the bees to carrying their honey above and building the combs thicker for extracting as fast as the brood hatches out, but the Miller frames are thicker at the bottom than the Hoffman. There is only ¼-inch space for the bees to go up through, and the air-space under them will be ⅝-inch. Would this be ventilation enough for that kind of frames? Would it not be good to put a ¼-inch piece around under the top-story, giving entrance across one end? Of course, I could put pieces on the bottom-board and enlarge their entrance.

I would be glad to read the criticism on this subject. I have 30 colonies, and am thinking of treating all this way.

LAURA E. RUDY.

Fairmount, Ill., April 27.

Very evidently you have a wrong idea of the ridges over the splints in the Miller frame. I think you must have gotten your idea from the picture given on page 97 in "Forty Years Years Among the Bees." That picture is one of the frame filled with foundation before given to the bees at all, and what you call ridges are the splints themselves. It is possible that once in a while a ridge may be seen, but surely not often, as I do not now remember ever seeing one, and usually the only way that the presence of the splint is discernible is by holding the comb up to the sun and looking through it. If you will look at pictures on pages 87, 101, 105, 261, you will see that there are no ridges from the splints to be seen.

Wire in place of splints will work, but hardly so satisfactorily, as the wire may bend, and the splints are always perfectly straight. The addition of horizontal wires will, of course, add strength for extracting-combs, but are hardly necessary.

Your plan during the honey-flow will work all right, but I would not advise you to give any more space under the frames, as one experiment along that line would be enough. The bees would surely fill that space chuck-full of comb and honey, and a sticky mess you would have of it. If you wish to give more ventilation, just shove the upper story forward enough for bees to pass, and that will give a free circulation of air without the dire results of the other plan.

That ¼-inch space between bottom-bars is all right.

You do not mention that your plan of operation is to prevent swarming, but it is nothing more nor less than the Demaree plan to prevent swarming.

By W. A. PRYAL, Alden Station, Oakland, Calif.

"Our Youthful Bee-Expert"

Ralph Benton, to whom I referred recently as being connected with the bee-department of the University of California, is making a greater stir in the bee-world in these parts than his distinguished father did 30 years ago, when he (the latter) commenced to attract attention in the bee-papers by his writings. Perhaps at the University a new broom may sweep clean—I hope it will always do so. At any rate, I notice that the "youthful bee-expert," as one of the daily papers calls him, is to make a tour of the Southern California apiaries as soon as class-work is over at the University, and get material for a bee-bulletin. Bully for the "Varsity;" bully for Benton!

Hunting for Bee-Fixings

Did you ever have to hunt for bee-appliances? I don't mean hunting about your apiary, but in your town or the next one. I've had a time of it this week getting some things I found I was short of. Before the big fire that destroyed San Francisco a year ago, there were a couple of places where one could easily procure almost anything in the bee-line. Well, the other day I sought those places, but I must say I did so sorrowing. The day was hot, and it is no easy job to get around in the "ashen city" these days, though order and beauty are fast being brought out of chaos. One of the houses that represented a well known Eastern bee-supply manufacturer, resumed business in a big shack near the former location of its fire-swept store. In answer to my inquiry, I found that they did not handle bee-supplies now; that they did not have sufficient room to do so. Neither could they tell me where I could find any. I tried to see if there was anything to be had a few blocks further up, where I knew there had been a dealer in dairy and bee fixings. There was nothing on the block but old bricks and other debris. Some excavators were at work on some of the lots, as they were on nearly every block—they and the builders.

The next day I found that a firm from an outside city, which had faith in San Francisco's future greatness, had opened a big store and carries bee-ware as well as a fine stock of garden-supplies. But they don't advertise! Printer's ink is as essential in greasing the path of the bee-man and his allies as it is for the man who sells Fillyourstomach goods and Feathers-andfrills for Maria.

An Honored Professor Retired

I learn that Prof. E. J. Wickson, for many years Dean of the Agricultural College of the State University of California, at Berkeley, is to be succeeded by a man from one of the Eastern colleges. This is rather unfortunate for the California University, as Prof. Wickson has been connected with that institution for a little over 30 years, and it may be said that he has done more than any other person in the State to give the University the high standing it has won among the agricultural colleges of the world. In his earlier connection with the college he held the Chair of Dairying, and at the same time was editor-in-chief of the Pacific Rural Press. Later, he was the horticultural expert of the college, and had general supervision of the agricultural grounds, and at the same time filled the position of Horticultural editor of the paper named. His work, "The Fruits of California," is the rec-

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ognized authority on the subject in this State. While he may be transferred to another sphere of the institution, I hardly think the Regents will allow so valuable and worthy a professor to sever his connection with the college altogether.

I first made the acquaintance of Prof. Wickson in the fall of 1876, I believe, when I was a student of the University. I think I wrote an article for the Rural Press, showing that some alleged moth-proof bee-hive, extolled by one of the paper's correspondents, was not what it was claimed to be, and it could not be. Later, I disproved (or think I did) that a certain variety of eucalyptus near Los Angeles killed honey-bees wholesale when they quaffed of the nectar contained in the flowers thereof. Since then, nothing has been heard of the alleged honey-bee-killing eucalyptus. The story came through one of the Los Angeles dailies, and was copied by the Rural Press.

Prof. Wickson, though not a practical apiarist, has always taken quite an interest in bee-matters, and had quite an apiarian department in his weekly. I believe it was in 1875, when he was connected with the Utica (N. Y.) Herald, that he was appointed on a committee of the American Bee-Keepers' Society, which met, if I remember correctly, in the city just named, for the purpose of investigating the alleged adulteration of honey. One of the other members of the committee was the great American bee-keeper, Moses Quinby. The Professor tells an amusing story of his visit to the veteran apiarist's home.

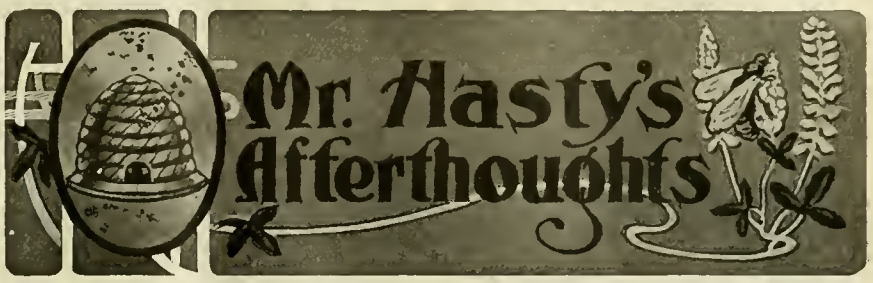
A more unassuming, yet agreeable, gentleman than Prof. Wickson, never lived. He was held in such high esteem in his home city, Berkeley, that he was retained as a member of the School Board for over 20 years, and he would probably be looking after the interests of the children yet if he did not insist upon having his name withdrawn from further elections of the position.

Where All is Golden

The Golden State! Golden in its most precious metal; golden in the color of its countless acres of wild flowers! In a short trip down the county recently I noticed vast fields of yellow flowers—a cloak of gold seemed to bo spread over a large section of the earth within the reach of one's vision. There was the thrifty mustard, and there were turnips. The last-named seemed to vie extermination, for grain-field, truck-garden and pasture were all taken possession of, as it were, by this earliest blooming of flowers. Then there were some rape and radish—all yellow as the gold of Ophir, except the latter. These all grow in a wild state in luxuriant profusion—so much so at times that they are a sore annoyance to the cultivator of the soil. This season they seem more numerous than ever; I suppose the long, wet winter and spring was the cause. But to the apiarist they are more of a joy than a sorrow—they all yield richly in nectar, and, I believe, of a very fine flavor. I know that in years when these flowers are most abundant, we get the most delicious honey of the year. This is the latter part of April and during the first half of May, when the weather is warm.

Advertise, Ye Bee-Caterers

The closing lines in another paragraph impel me to add a few more words upon the subject of advertising. No merchant nowadays hopes to make a success of his business unless he devotes a portion of his profits or capital to advertising. As proof, just look at the vast acres of advertising space used in the papers—daily, weekly, and monthly—and to the broadsides printed or painted upon dead walls, fences, etc. If your business is young and your capital small, advertise moderately; if well established, advertise generously. Big ads sell little biscuits for the greatest baking concern in the world; heavy advertising built up the most pernicious tobacco trust known to English speaking people. The queen-breeder, the hive-maker, the honey-seller, may all find their several businesses expand under the magic of the impress of cold type and printer's ink. Try it in the "Old Reliable," if you are not doing so; thousands of bee-keepers are in need of what you have to sell; perhaps I, myself, may be in need of the very article you are hiding in the dark.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Winter Hive-Entrances — Clipping Queens' Wings.

Thanks to Mr. Byer for evidence that entrances contracted for winter all on one side do not always prove disastrous.

And he is setting a record when he gets his bees to roar at night in maple-sugar time. (A sleet had torn maple branches everywhere, and then it came warm.)

And the Byer method of clipping queens is likely to prove very catching among spry-fingered operators who delight in doing something other folks can't do. (Curved surgical scissors, which can be had for about 60 cents a pair. And deftly whisk up the wing and clip it without touching the queen elsewhere.) "No use o' talkin'," the scent of human fingers does sometimes cause queens to be attacked and killed. Thus the improved way is a life-saver. One heavy objection to the usual way is that the queen at once throws a foot upon one of the blades in the effort to push it away, and loses a foot in the process. The Doolittle way with a keen pen-knife is vastly safer, as well as being a good way otherwise. Whether the Byer method is splendid or bad depends partly upon whether the queen is, or is not, going to notice the thing enough to "put her foot in it." I hope she will not; but it needs lots of watching—and lots of examination of queens afterward—to be sure of it. Very desirable to obviate the scent of fingers which the Doolittle way puts on. I don't clip. If I did I think I should use wire forceps—made of such fine wire as frames are wired with. Loop on each tip sized and shaped like a bean. This wire, when doubled and twisted, is just stiff enough to hold the queen, and just flexible enough that you can't pinch to injure her. Once in the forceps, you can focus her in your specs and proceed so deliberately that the danger of amputating feet and legs is minimized. Alas, she is so quick, and the human nerve-telegraph so slow, that the foot *may* go in just as the blades close by any scissors method—unless, possibly, by the method which uses a West cage and pulls a wing through the wires before cutting. Page 317.

The Sad Mix Up of Names of Plants.

Yes, Mr. Scholl, it's a sad nuisance that in the popular names of plants it so often happens that totally different plants have the same name in different localities. The sage of Texas is not, by a mile, the sage of California. The poplar of the South is about as different as you can well get from the poplar of the North—and so on around. Use the botanical names? Ah, yes—if only our jaw-bones would not break in the process—and if only the angels were white, and didn't have such big black spots on them! Botanical names pretty badly mixed, too. From the sheer vastness of Nature, the same plant innocently got two or more botanical names. Competent botanists worked, and worked hard and wide, and didn't always see each other's work in time. But mending the trouble, and getting down to one name, was a tedious affair not yet fully over. Also some duplicates were given *on purpose*. The big trees of California had to fight it out between Wellingtonia (biggest British general) and Washingtonia (biggest American president), and Sequoya (biggest Indian thinker), the last finally

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winning because the other two stirred bad blood and killed each other off. And now an awful squabble seems coming on between those who want to keep the established genera about as they are, and those who want to split them up, and lug in a great lot of new names. We bee-folks have a right to speak feelingly (to pass from plants to creatures higher), for our bee is called both *Apis mellifera* and *Apis mellifica;* and the great bee is called both *Apis dorsata* and *Megapis dorsata.* Let us wait with patience. Millennium will get here finally. And meantime it does help *some* to use botanical names. Page 299.

BREEDING FOR NON-SWARMING BEES.

The San Antonio convention tried to get its eye on the non-swarming bee. Hardly had conspicuous success at it. Sad to relate, the bee that swarms more than usual is a great deal easier to obtain than the one that swarms less than usual. And where certain bees *seem* to be non-swarming, it transpires that it was all in the conditions, not in the bees. Change the conditions and directly the bees swarm as badly as others. Still the rooster crows that some time in the geological ages of the future there will be a non-swarming bee. But complete control of drone-parentage will come first, I think, to help the thing along. I sometimes suspect that Nature's present bee is about as good at gathering honey as it ever will be, or ever *can* be. But non-swarming will give the breeders of the future something valuable to breed for. Page 309.

AGAINST SULPHURIC ACID FOR CLEANSING BEESWAX.

Certainly C. P. Dadant is qualified to protest against anything that injures beeswax — has used beeswax enough. We notice that he protests against the use of sulphuric acid as a dirt starter when rendering it. Page 306.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 398)

HONEY FOR TEXAS PRODUCERS.

"What is the most profitable kind of honey for Texas bee-keepers to produce, bulk comb, section honey, or extracted?"

Mr. Hyde—Mr. President, I put that question in there. I want to hear the discussion of bulk comb honey before the Northern bee-keepers, not that we are expecting you to produce bulk comb honey because you have a *shorter* honey-flow, and it is quite different in this part of the country. We have long seasons, and the seasons are such that we don't find it profitable to produce section-honey. A few years ago, bulk comb honey was practically unknown. But today there is scarcely a bee-keeper in the United States that has not heard of it and how it is produced. It is now the principal product of Southwest Texas, and is gaining foothold further North. The demand of the consumer for this article is rapidly growing, and is keeping far ahead of the production. There are many reasons why it is rapidly growing. The buyer feels sure that he is getting just as pure honey as if he were buying section honey; and that he is getting full weight; also that he has bought it at a less price than he could section honey. Then, he has it in a nice vessel where there is no waste nor leakage, and, when the honey is used up, he has a nice pail left that is handy in any kitchen. The above will apply to the majority of buyers. Of course, there are some that will always buy section honey because it looks nicer to them. The most delightful sight to nine-tenths of the buyers, is a nice pail of bulk comb honey, with just enough clear, sweet, extracted honey poured over it to cover it and to make it juicy. Bulk comb honey is mostly produced in the Ideal super. There are some bee-keepers that still use the full bodies for bulk comb, but we feel sure it is because they have never used the Ideal, which is lighter to handle; nearer the right amount of room to give a colony at one time; and last, but not least, easier to get rid of the bees. Take off the cover, give them a few puffs of smoke, pry up the super, bounce it on the hive lightly, and most of the bees will fall off. Then pile them up in a pile, smoke them at the bottom, and in a few minutes all of the remaining bees will leave. In that way you have no handling nor brushing of bees. The Ideal frames are handier for extracted, and if you will use a No. 17 Cowan Extractor, you can extract 4 frames at once. We pack bulk comb honey by cutting it out of the frame; then place it nicely in cans and fill the can full. Then pour in extracted honey to fill the crevices. In this way about one-third is extracted honey. Now as to the relative cost of bulk and comb honey. You buy supers and frames for bulk comb once for all time to come. When you buy supers for sections, the sections are sold with the honey, and you have more to buy each year, and new separators every 2 or 3 years. And the shipping-cases cost more than for bulk comb. It is much more trouble and time to pack it than to pack bulk comb, and much more apt to get broken up in shipping than bulk comb. And it takes double first-class freight-rate. Bulk comb honey takes fourth-class rate, less than one-half what it takes to ship section honey. Another great advantage in producing bulk comb honey is that we can get the bees to work in the supers much earlier than we can in sections, and they can get in larger clusters to get up heat sufficient to produce wax much better and faster than when they are cut up into so many departments. All bee-keepers that have tried both kinds will readily testify that they can produce from one-half to twice as much bulk comb as they can section honey.

The convention then adjourned to meet again at 1:30 p. m.

THIRD DAY—AFTERNOON SESSION.

Pres. Dadant—As the Resolutions Committee are not yet ready, we will proceed with the Question-Box.

WAGES OF APIARIAN HIRED HELP.

"What should we pay experienced hired help in the apiary?"

Dr. Bohrer—Let Dr. Phillips answer that question.

Dr. Phillips—We never hire help except by the year, and the work is entirely different from ordinary apiaries.

Mr. Jones—In our district it is hard to get competent help, and we pay all the way from $15 to $30 and $35 per month, but it is mostly at these prices; but we don't get experienced labor.

Mr. Hyde—I think the part of the country in which we live has a good deal to do with that. I could not tell you what you should pay in Colorado or any State in the North, but I hire from 2 to 4 men each year during the summer season, and I have generally paid about $30 down to $18 for the best experienced men; but this would not apply in North Texas, as labor is worth twice as much as it is in this part of the State; but since I have been down here I have been paying $30 for the best labor I get.

Mr. Victor—I have paid as high as $40 per month for some of my help, and I don't know but that the $40 help paid me as much as 2 men that did not know much about it. The balance of my help, I had rather they did not know much about it; but I want one experienced man, and I would like to have one man in charge of each apiary that knows what is to be done, and pay from 75 cents to $1.00 a day for the labor, and from $30 to $40 for a man that knows how to do something.

Mr. Hyde—I aimed to make that explanation. The others I call helpers, and the apiaries are under the charge of that man.

Mr. France—I am a good ways from home, but experienced bee-keepers, I would infer from that; and it is a hard question, indeed, in our part of the country to get men that will work for some

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one else. Most of them want to work for themselves in our country, and I have to take the other side of it, and use their hands and my ability. We can not get experienced bee-keepers—they all want to work for themselves.

Dr. Bohrer—Well, you have to pay for such as you do get, don't you?

Mr. France—I have had students for several years, who attend our State Normal School, and during the vacation I can get them at reduced prices, paying about 80 cents to $1.00 a day and their board; but if I have to go outside of that class of labor I have to pay more. The man who is living across the road from me has charge of the extracting and casing. He goes with me from one apiary to the other; he does the handling of the machinery, etc. I give him $2.00 a day and his dinner; but he extracts about 4,000 pounds a day, and rides 6 or 8 miles a day. It has been suggested that the Information Bureau ask for such bee-keepers, so if you know of any, let it be known.

Pres. Dadant—We will now hear from the Committee on Resolutions.

(Continued next week.)

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Wintering Bees in Danzenbaker Hives, Etc.

I use the Danzenbaker hive and winter my bees on the summer stands. I expect to get some shallow Danzenbaker frames filled with buckwheat honey. Then when I pack the bees for winter I want to give each colony some of these frames in a super.

1. Would I have to give them a full super, or could I just as well hang 3 or 4 frames in the center and leave the rest of the super empty?

2. Would that extra space to keep warm be more of a detriment than the honey would be a help?

3. Would I still have to put a super of packing on top of all, or could I pack on each side of the 3 or 4 frames of honey?

4. If so, how should I do it?

5. Would it be better to put the super of filled shallow frames, whether 3 or 4 or a full super, under the brood chamber, and let the bees take it up as needed?

6. If I did this, should my outer winter-case come clear to the bottom of all, or just to the bottom of brood-body?

7. To make it still better, if they were your bees, what would you do different from any of these suggestions?

8. I am giving my bottom-boards, super-covers and escape-boards 2 heavy coats of paint all over top and bottom. Is this a good plan?

9. What is the best foundation-fastener one can get for full sheets or for full sheets and bottom-starters in sections?

10. How high from the ground is it best to have the hives? We have quite a bit of wind here, but not strong enough to blow a hive over. PENNSYLVANIA.

ANSWERS.—1. You can do either way.

2. That depends. With a colony none too strong and abundant honey in the brood-chamber, it might be more of a detriment. With a rousing colony and a bare possibility that the stores in the brood chamber might run out, it would be an excellent precautionary measure.

3. You could pack on each side.

4. On each side of the frames of honey put a dummy, having spacers either on the frames or on the dummies so that there would be no danger that in packing a dummy might be crowded up too close to the honey; and then pack each side just as you would pack an empty super.

5. I don't know. I'm not sure but it would; only in that case you must be careful you don't start robbing when the under story is first given.

6. Not very material; but it would be a little better to come clear down.

7. I'm not sure I've anything better to suggest, unless it would be to have the honey stored in frames the same size as those in the brood chamber, and then have all the honey in the brood-chamber.

8. Yes.

9. I suppose you mean for fastening foundation in sections. Perhaps you can have nothing better than the Daisy fastener.

10 That depends somewhat upon location. In some places in the South, hives must be stilted up to keep ants out. In this locality, and probably in your locality, no such necessity exists, and it is better to have the hives merely raised enough so they will not suffer from the moisture of the ground, the bottom of the hive being 3 to 6 inches above the ground. That makes it more convenient for any returning bees that drop on the ground in front of the hive, and it is also more convenient for the bee-keeper to *sit* beside the hive.

Taxing Bees—Sowing Sweet Clover Seed—Number of Colonies to be a Bee-Keeper

1. Are bees assessable? Does a man have to pay taxes on them after he gets a certain number of colonies? A man here said they were taxable, and I seem to remember seeing in the American Bee Journal that they were not.

2. Can one be prosecuted for sowing sweet clover along the country road?

3. About how many colonies of bees must one have to be a bee-keeper—not an amateur bee-keeper? MISSOURI.

ANSWERS.—1. In Illinois they are assessable the same as any other property, whether one has 1000 colonies or only a single colony. Why should it not be so? I don't know whether the law is any different in Missouri.

2. I never heard of any law that would make such sowing a criminal offense. At the same time, if there is a strong prejudice among your neighbors against having sweet clover on the roadside—a prejudice which is by no means uncommon—I think I would not sow any seed except on my own land. After your neighbors learn that you can utilize sweet clover for pasture and hay, their prejudice may be overcome.

3. As generally used, the word "bee-keeper" applies to any one who owns bees, whether a single colony or a thousand. It would perhaps be better to limit the word to designate one who takes care of bees with some degree of skill, the number of colonies having little or nothing to do in the case. An amateur bee-keeper is one who keeps bees largely for the pleasure of it, no matter how many colonies he has.

Rearing Queens for Home Use

1. I will probably need 10 to 20 queens this summer. To buy them is rather expensive, and to wait for the bees to swarm is too late; besides, I don't want them to swarm if I can help it. Some think good queens can not be reared in a queenless colony. What is your opinion?

2. Would the following plan be profitable? Divide a colony according to the Alexander plan, put the queen in the lower and the brood in the upper story, then place a honey-board between to get cells started.

3. How long would it be necessary to let the honey-board remain to get cells started?

4. Is it likely that the bees would destroy the cells after the honey-board was removed if a queen-excluder were put on?

5. Is there danger that the bees would swarm if the cells were left until sealed?

6. Wouldn't the cells be as well off in a 2 or 3 frame nucleus after they were sealed as in a full colony? IOWA.

ANSWERS.—1. Rightly managed, I believe as good queens as any in the world can be reared in a queenless colony.

2. Your plan will work if there is a strong force of bees in the upper story, but it isn't the best way. If I understand you correctly, a board cuts off all communication between the lower and upper story, and, with no nectar coming in, the bees will be to some extent in a discouraged condition. Better take a little more trouble and have the very best queens obtainable.

3. Probably 2 days will be long enough.

4. Sometimes they would. There is more danger of it with an energetic young queen than with an older one. The best is to have in the hive below a queen that the bees are about to supersede.

5. No, cells in the upper story over an excluder will not cause the colony below to swarm.

6. Probably they generally would; but if a cold spell should come they would be better off in a full colony. There is no particular object in putting them in nuclei as soon as they are sealed, for any number can be put in an upper story over an excluder, and they are quite safe there until about 10 days after the colony was made queenless in which the cells were started, and having the cells in the upper story doesn't hinder the working of the colony below, unless they are working in sections. Better keep the cells in a full colony just as long as you can. The matter of good queens is so important that it pays to give them the best chance possible. About the only place in which it pays to economize is in the place where the young queen has to wait to be fertilized and to begin laying. A nucleus will do for that perhaps just as well as a full colony.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

American Bee Journal

Reports and Experiences

Bees Doing Well

I have 68 colonies of bees, spring count, doing well. Our honey comes from alfalfa and sweet clover. I run my apiary for extracted honey, which sells at 6 cents per pound here.

I could not get along without the American Bee Journal. JOHN MILLS.

Hagerman, Ida., April 25.

Baby Nuclei for Queen Mating

On page 329, the subject of baby nuclei is spoken of which prompts me to give my experience in trying to get young queens fertilized in such quarters.

In 1905 I made a number of baby nuclei, each to hold 3 one-pound sections, making them double, with entrance at opposite ends. But one season's use satisfied me that they were entirely useless for the purpose intended. Even virgin queens seemed to realize that such cramped quarters were no place to build a strong colony, and the few that did become fertilized, unless removed at once, would fill the empty cells with eggs, and the little colony would desert their contemptible quarters.

One in particular gave me considerable trouble. A large swarm issued that had a clipped queen, and a fertilized queen from a baby nucleus came out at the same time and took the swarm to the top of a tall apple-tree. It does not matter how high a swarm settles if they have no queen, for like Crockett's coon, they have to "come down."

I am not afraid of virgin queens with a first swarm, for the bees will ball them, and it is an easy matter to find the young queen in a cluster of angry bees on the ground directly under the clustered swarm.

My present plan is to use not less than 3 of my standard brood-combs (which have a 14-inch top-bar) to each nucleus. My nucleus hives hold from 4 to 6 such frames, and if at any time orders for queens are slack, I remove the division-board and add such comb or combs as may be needed, and keep my queens at work. W. J. DAVIS, 1st.

Warren Co., Pa., April 23.

Not An Encouraging Prospect

My bees have not wintered so well as usual. I lost one colony out of 27; two I found queenless, and thieves entered my yard and carried off one. The prospect for bees this spring is very poor. Frost has killed nearly all fruit-buds, and high winds and cold waves are common this spring. Snow—yes, we are getting some of that, too. April 18 we had about 3 inches on the level, and this morning about 1½ inches, so you see the prospects are not what they might be. Well, it's no use to grumble over spilled milk. My bees are well provided with honey yet, and I have about 200 pounds of sealed honey in brood-frames to build them up for the honey-harvest, which, as a general thing, starts the latter part of June. HENRY HANSEN.

Ashton, Nebr., April 25.

"The Judgment" as Seen In a Bee-Keeper's Dream

I had a strange dream last night. I thought I stood by the gate which St. Peter is supposed to guard, watching the throng passing through. It seemed to be "Bee-keepers' Day," for I recognized many of them by the pictures that have become so familiar to readers of the bee-papers. Occasionally one was "turned down," but the most of them went through without question.

Soon my attention was attracted to a rather important-looking shade who was pushing and crowding his way rapidly along. He crowded in front of A. I. Root, who meekly stepped to one side, pushed in between Dr. Miller and Doolittle, and was slipping through in the wake of big, good-natured Scholl, when St. Peter stopped him. He looked surprised, and haughtily said, "I'm a bee-keeper!"

"Yes, yes," said St. Peter, "that's all right; but there is something more needed here. What have you ever done to entitle you to a seat inside?"

"Why," replied the important one, "I have been the means of saving *thousands* of bee-keepers from perdition."

"So! so! In what way?" asked St. Peter.

"Well, I discovered a secret that, if published, would have made millionaires of all the bee-keepers that knew of it; and you know it is almost impossible for a rich man to enter into the Kingdom of Heaven."

"Strange," said St. Peter." "I never heard of this. What might be your name?"

"My name is Davenport!"

Just at this juncture I awoke, but not before I saw a frown gather on St. Peter's brow that I imagined boded no good for our secretive friend. E. J. GILLETT.

Mexico, N. Y.

Winter and Spring Hard on Bees

A friend whose bees I had charge of last spring would not put any expense on them, so he did not feed them last fall. They were very light in honey. The open winter we have had in Iowa was hard on bees wintered on the summer-stands. Out of 35 or 40 colonies, fall count, only 10 were alive this spring. The 3 colonies I had in the cellar were all right in January, but my wife has been very sick with typhoid fever, and I could not take the bees out in March as I should have done, so all 3 are dead, although they had plenty of stores. The cellar was quite damp and the air foul, which I think was the principal cause of their dying.

I will not give up bee-keeping because I am out of bees, for I now have 10 empty hives and enough supplies to last a year. I expect to use them the coming season. I have taken 4 colonies on shares about 2 miles from where I live, and have had 2 colonies given me that I will keep here.

This month has been a hard one on bees. Last month was so warm that brood-rearing was pretty well started, and this month has been so very cold, with extreme changes.

(REV.) J. W. STINE.

Durham, Iowa, April 15.

Managing Weak Colonies—Last Year's Crop

Alexander's plan for weak colonies was a complete success with me in 3 cases last spring. I think the best plan in dividing them when they become strong is to move the bottom hive just half its width to one side, and set the top hive close up to the side. This really makes one hive of them with a wide entrance, and each one catches its share of bees. After a day or two they can be moved apart.

I got about $40 worth of honey from 18 colonies, last season, and increased to 23 colonies. E. J. GILLETT.

Mexico, N. Y.

Lost 4 Out of 6 Colonies

I put 6 colonies of bees into the cellar last fall, and have had rather bad luck as I took only 2 colonies out alive this spring.

I must have the American Bee Journal as long as I have a single colony.

M. O. ROCKWOOD.

Osage, Iowa, April 16.

HOW TO PAINT

Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. **"Everybody's Paint Book,"** written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do **their own painting.** It gives practical lessons in plain painting, **varnishing, polishing, staining, paper hanging, kalsomining, etc.**

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Bee-Hives, Sections

WHY BUY OF US?

Remus, Mich., Feb. 25, 1907.

A. G. Woodman, Grand Rapids, Mich.

Dear Sir:—I use **Lewis Sections** exclusively; there are none better—the only perfect "V"-cut section that has come to my notice. They fold without moistening. E. D. TOWNSEND.

Remus, Mich., Feb. 18, 1907.

The **Lewis Hive-Bodies** are far superior, both in material and workmanship, to any I ever bought.

As ever yours, E. D. TOWNSEND.

Beeswax Wanted. Advanced Bee-Veil, cord arrangement. Silk face, 50 cents, postpaid.

A. G. WOODMAN CO. Grand Rapids Mich.

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.

4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.

1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.

Samples of Honey analyzed. Correspondence solicited.

American Bee Journal

American Bee Journal Novelty Pocket-Knife Gold Fountain Pen

All for $3.00

(This cut is the full size of the Knife.)

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

Worker

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner. the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

SOLID GOLD FOUNTAIN PEN

Drone

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

⅔ size

We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00. Address all orders to

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

Pure and Selected Italian Queens

Sent direct from Bologna (Central Italy.)

Address, EXTENSIVE APIARIES.

ENRICO PENNA, San Ruffillo, Bologna, Italy.

1907 Price-List for America:

	1 Queen	12 Queens
April and May	$1.90	$21.60
June and July	1.80	20.40
August and September	1.60	19.20

NOTICE.—Mr. Doolittle's "Scientific Queen-Rearing" is my guide in rearing my queens. Only fertilized queens of the highest type are sent to purchasers. In September and October I can send also Italian Queens of common bees at $1.30 each.

CONDITIONS.—Cash with orders. The queens that may die on the journey will be replaced provided they be sent back immediately in their boxes. Purchasers are urgently requested to give their address very clearly.

Mention Bee Journal when writing.

Queens

The finest in the land from DANIEL WURTH & GRANT.

3-Banded, Red Clover, and 5 Banded Goldens.

The Goldens took First Premium at every Fair they were exhibited last year.

Prices:—Untested, $1.00 each; Tested, $1.50 each. Address,

DANIEL WURTH & GRANT
PITKIN, ARK.

☞ Make Money Orders payable on West Fork, Ark. I have moved from San Antonio, Texas.—D. W. 6ESt

Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6Etf W. J. McCARTY, Emmetsburg, Iowa.

Mention Bee Journal when writing.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. FREE—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) **Jackson, Mich.**

28Etf Please mention the Bee Journal.

29 Years Means QUEEN Quality

100 pounds to the colony in a poor year, like last, and 280 to the colony the year before. My Italians are non-swarmers. Every queen purely mated or money back. Circular tells of Italian and Caucasian.

8Etf A. D. D. WOOD, Lansing, Mich

Mention Bee Journal when writing.

QUEENS

Caucasians, Italians, Cyprians and Carniolans

Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00; one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear: payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

E. HAUNSCHILD, the Queen-Breeder,

20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

Mention Bee Journal when writing.

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.....25c
French Killing Knife 50c
Capon Book Free.

G. P. Pilling & Son Co., Arch St., Philadelphia, Pa.

Mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
334 Dearborn Street- ,CHICAGO, ILL.

American Bee Journal

TEXAS QUEENS

The Famous Honey-Producers

Texas Queens

The Famous Honey-Producers

I am booking orders now for April, May and June delivery, for **Carniolans, Italians,** and **Goldens**—equal to the best, regardless of price. PRICES:

Tested Queens	....$1.00 each;	$10.00 per doz.	
Warranted "	.... .75 "	7.00	"
Untested "	.... .50 "	5.50	"

6Atf GRANT ANDERSON, Sabinal, Texas.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc, as we can save you time and freight. Beeswax Wanted for Cash.

H. M. HUNT & SON,
REDFORD, Wayne Co., Mich.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, 1.00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.

Queens and Nuclei

Circulars Free.

D. J. BLOCHER, Pearl City, Ill.
18Atf Mention Bee Journal when writing.

ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

One Untested Queen	$1.10
" Tested Queen	1.50
" Select Tested Queen	1.65
" Breeder Queen	2.75
" Comb Nucleus (no Queen)	1.15
" Untested Caucasian Queen	1.25
" Tested Caucasian Queen	1.75

Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

J. L. STRONG
5Atf 204 E. Logan St., CLARINDA, IOWA.

Angel's Golden Beauties

AND HIS

Bright Three-Banded Italian Queens

Have but few equals and no superiors. A fine, large Queen of either strain for $1; an extra-select breeder for $2.50. Have had 12 years' experience at queen-breeding. Address,

SAMUEL M. ANGEL
20A13t R.R. No. 1, EVANSVILLE, IND.

Your Order for Queens

Will be promptly filled. We can supply both tested and untested Italian Queens, your choice of either imported or home-bred mothers.

Our bees are bred for business; our Queens will not disappoint you. Tested Queens, $1.00 each; Untested Queens, 75 cents; $8 per doz.

J. W. K. SHAW
20Atf LOREAUVILLE, Iberia Pa., LA.

Mention Bee Journal when writing.

We will Buy and Sell HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken
265 & 267 Greenwich Street
NEW YORK, N. Y.

Mention Bee Journal when writing.

Ohio and West Virginia Bee-Keepers

Save freight and time by ordering Root's Goods from me. Catalog free.

E. W. PIERCE, Zanesville, O.

Please mention Bee Journal when writing advertisers.

Breeding Queens and Nuclei

We offer for early spring delivery (by mail) Choice Italian Breeding Queens at $2.50 each.

Also, 3-frame Nuclei of Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

Well-Bred Queens

Will greatly increase the yield of honey. Am now taking orders for **Cook's Select-Bred Queens**—to be sent as soon as weather permits mailing. Also Caucasian Queens from imported stock.

Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

J. H. M. COOK
70 Cortlandt Street, NEW YORK, N. Y.

The Oldest Supply-house in the East, and only Reliable Goods sold.

10 cents brings sample jar by mail.

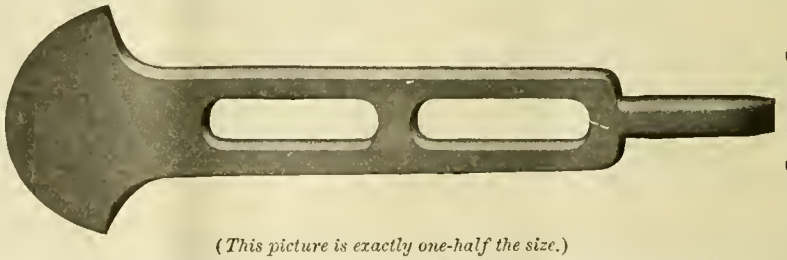
17A13t Mention the Bee Journal

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

Something New=The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



Only 30c, by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

What Dr. Miller and Miss Wilson Say of It:

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

GEORGE W. YORK & CO., CHICAGO, ILL.

American Bee Journal

Millions of Dollars

are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

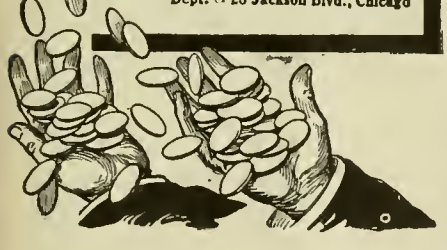
Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
Dept. G 28 Jackson Blvd., Chicago



BEE-SUPPLIES

PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

Now is the time for you to buy your **Bee-Supplies.** We manufacture **Bee-Hives** of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

Mention Bee Journal when writing.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

W. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

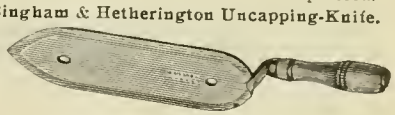
A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.



Patented May 20, 1879. **BEST ON EARTH.**

T. F. BINGHAM, Farwell, Mich.

BEE-SUPPLIES

Hives, Sections, Comb Foundation, Smokers, etc. Best of goods, reasonable prices, and a "square deal." Send for free catalog.

ARTHUR RATTRAY, Almont, Mich.
12A13t Please mention the Bee Journal.

Simplex Bee-Hive—The plainest, the cheapest, most durable, perfect, efficient implement. Constructed without boards. Any one can manufacture it. License of U. S. Patent granted. Address,
17A6t P. O. BOX 332, Colton, Calif.

Mention Bee Journal when writing.

ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen afer June 1, $2.00 GEO. W. BARNES.
15A26t Box 340. Norwalk, Ohio.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

Mention Bee Journal when writing.

QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4.00
Tested	$1.00	" "	5.00
Selected tested	1.25	"	
Two-frame nuclei with untested queen			2.00

Orders filled in rotation. Send orders to

E. A. SIMMONS, Greenville, Ala.
17Atf Please mention the Bee Journal.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

GREAT SCOTT!!

Indianapolis and Lewis Goods

The C. M. SCOTT CO., Distributors for Indiana

Carloads of the famous Lewis Beeware now ready for you at Indianapolis, one of the greatest shipping centers in the United States.

Can be shipped you at the drop of the hat.

10 different counties voice the sentiment of the State.

Promptness! Quality! Reliability!

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—I have bought Lewis Company's bee-supplies for the last 25 years. In the last 7 years, since you had an agency for them, I have bought them from you and have found you honest to the cent. Your sections can't be beat. Yours truly,

White Co. W. H. WHITCHER.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—All bee-keepers' supplies I ordered from you in past years were all first-class goods, nicely packed, and promptly shipped. I am yours for future patronage. WM. DAUBENSPECK.

Green Co.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—Having done business with you some time, I can not say anything but good words in regard to your plan of doing business. I will look upon it as my duty, also an honor, to do all I can to advance your interests. Yours truly,

Vigo Co. E. E. REED.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—I have always found supplies from you to be perfect in every respect, and as good as can be bought. My orders have always been promptly filled, goods well packed and in first-class condition.

White Co. Yours truly, IRA CLAPPER.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—For the last three years I have used your bee-supplies, and find them as you recommend them. I never had dealings with a fairer firm for prompt shipments and honesty.

Sullivan Co. Yours truly, JOEL C. BARNES.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—Upon dealing with you I have always found you prompt in shipping, and the goods are just as you recommend them to be. I never have had a mistake to rectify in my dealings with you.

Fulton Co. Yours truly, WM. BAUMANN.

THE C. M. SCOTT CO, Indianapolis, Ind.

Gentlemen:—Having purchased bee-supplies from you for three or four years, would say that I have found the goods as advertised. Everything full count, boxed and shipped promptly.

Park Co. Yours truly, DEMPSEY SEYBOLD

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—The orders for bee-keepers' supplies I have placed with you have been given prompt attention. Goods came securely and carefully packed and in good condition. The goods are durable and have given perfect satisfaction in every way. I can cheerfully recommend you to any one wishing anything in your line. Wishing you continued success, I am Yours truly,

Posey Co. W. O. KLOTZ.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—I have been using G. B. Lewis Co. bee hives and fixtures for the past 20 years, and have always found their goods very satisfactory. I have been dealing with you ever since you commenced selling Lewis Goods, and have always found you honest and upright.

Montgomery Co. Yours truly, J. E. COEN.

THE C. M. SCOTT C., Indianapolis, Ind.

Gentlemen:—I have had dealings with the C. M. Scott Co., jobbers and dealers in bee-keepers' supplies, for several years. I find them prompt, and in packing and shipping my orders they surely have my thanks.

Wishing them good success, I am Yours truly,

Tippecanoe Co. ISAAC E. WINDLE.

THE C. M. SCOTT CO., Indianapolis, Ind.

Gentlemen:—I will say that the sections and bee-supplies I got from you are the best I ever received, and when you make an error you will correct it. I am in the business forty-five years, and got supplies from different firms and none compare with yourselves.

Allen Co. Yours truly, M. J. KISTLER.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
[Established 25 years.]

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as almost all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will SAVE MONEY BUYING FROM ME.

Satisfaction Guaranteed.

Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 9.—Very little honey on the market of any kind. Prices are therefore nominal. A little choice white clover comb sold at 17c, and would bring that at present, but supply seems to be exhausted; even with this scarcity there is no demand for No. 2 grades. Extracted, white, 7@8c; amber, 6@7c. Beeswax in good demand at 32c. R. A. BURNETT & Co.

CINCINNATI, April 16.—There is nothing new in the honey market, excepting that this part of the country is bare of comb honey, and it is well, for consumers will appreciate the new crop more when it arrives. We are selling extracted amber honey in barrels at from 5½@6½c. Fancy table honey, 8½c@9c, in crates of two 60-pound cans. For choice yellow beeswax, free from dirt, 32c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, April 25.—The comb honey market, on account of the lateness of the season, has grown just a little weaker in the last 10 days, although extracted honey is kept very firm. We think, however, there will be comparatively little comb honey carried over except in very small lots. We quote: Fancy comb honey, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy extracted honey, 7@8c; light amber, 6@7c. Beeswax firm, 32c.
We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, April 12.—COMB HONEY.—There is very little doing; stock of white honey of all grades is practically cleaned up, and small shipments which arrive from time to time, find ready sale at 14@15c for choice white stock, and 12@13c for off grades. Considerable dark comb honey is left on the market, and there does not seem to be any demand whatsoever. We quote nominally at 10@11c, but in large lots we doubt whether this price can be realized. EXTRACTED HONEY.—California stock seems to be well cleaned up, and we are informed that there is very little left on the Coast, and, before the new crop is marketed, whatever is on the market now will have been consumed. The prospects in California are very good for a large crop, but nothing definite can be said at this time, and there is no surety of a big crop until it is actually gathered. Last season the outlook was just as good, but in the height of the season, cold northern winds and generally contrary weather affected the crop to such an extent that it was small as in previous years. With favorable weather in California for the next two months a large crop will undoubtedly be harvested, and if so prices will naturally be considerably lower than those of the past season and present prices. We quote white sage at from 7@9c, and light amber at from 7@7½c. Near-by, as well as Southern honey, is well cleaned up, and the markets are in good shape for new crop. Cuban and other West Indian honeys are arriving in large quantities, most of which are sold for export. The market is firm, at from 58@60c per gallon, duty paid according to quality. Beeswax firm and steady at from 30@31c.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, May 4.—Receipts of comb and extracted honey are light; in fact, the market is almost bare. The demand for comb honey is good, but for extracted is rather light. We quote: No. 1 white comb, 24 sections, $3.25; No. 2, $2.75; No. 2 amber, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 50c.
C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2, selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax 32c, delivered here.
C. H. W. WEBER.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

BEE SUPPLIES.
We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.
MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.
THE FRED. W. MUTH CO.,
51 WALNUT ST., CINCINNATI, OHIO.

American Bee Journal

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

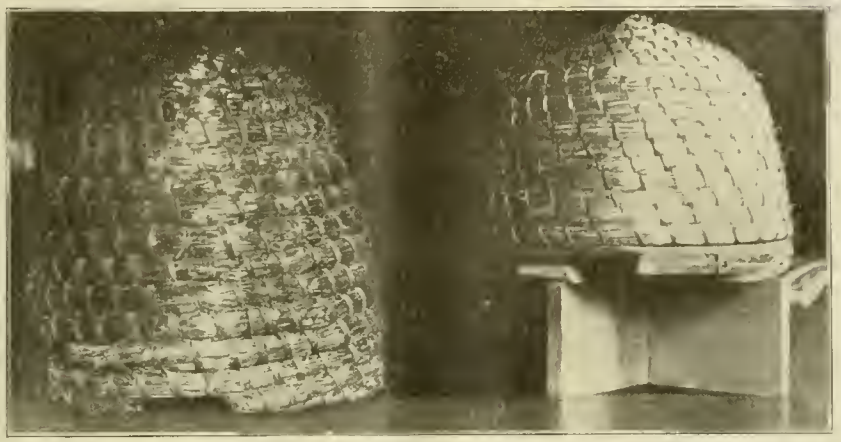
IOWA—J. W. Bittenbender, Knoxville.
Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.

NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.

ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland.
J. Gobeli, Glenwood.

47th Year MAY 23, 1907 Number 21

AMERICAN BEE JOURNAL



STRAW SKEPS REFERRED TO BY BURTON N. GATES.
(See page 430)

WINTER VIEW OF THE APIARY OF G. L. SAUER, OF POLO, ILL.
(See page 430)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
13 "	10 "	500 "	10 "
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These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the intereats of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
118 W. Jackson Blvd., CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33. MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$ 3.25	$ 6.00	$ .85	$ 4 50	$ 8 00	$ .95	$ 5.00	$ 8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1 10	5 50	9.50	1.20	6.00	10 00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.....$10.00
Select Golden Breeders 3 00
" 3-band " 3.00
" Carniolan " 3.10

Select Caucasian Breeders .....$ 3.25
1 full colony without queen in 8-frame dovetailed hive..... 6.00

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf **JOHN M DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
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Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

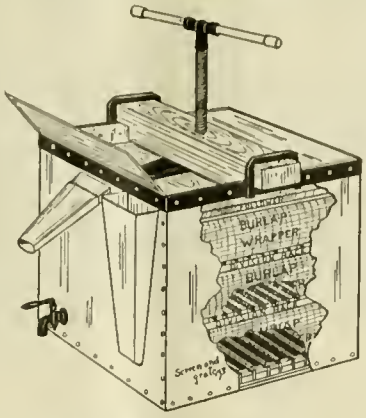
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long Tongues and Goldens are best of honey-gatherers: 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c. or $8 a doz.; Tested, $1. or $10 a doz.; Select Tested, $1.50. Breeders, very best, from $3 to $5. Carniolans same price. Try them We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

J. W. TAYLOR & SON
13A10t BEEVILLE, Bee Co., TEXAS.

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

Catalog for either, with instructions to beginners—Free.

29Atf **C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.**

QUEENS FOR YOU

Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, $1; Tested, $1.25. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.
12Atf Please mention the Bee Journal.

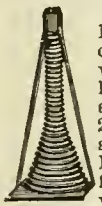
The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.
Mention Bee Journal when writing.

For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8-room house—on Wisconsin river. Address, O. C. FITTS,
10A13t KILBOURN, WIS.
Mention Bee Journal when writing.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
- - CHICAGO, ILL.

Established 1889

"If goods are wanted quick—

Send to ☛

I will exchange comb foundation, or any other Supplies, for your Beeswax and not keep you waiting, either, to work up your beeswax into foundation, and will send the Supplies immediately.

Will pay 33 cents a pound for beeswax in exchange for any Supplies you may need.

I can save you time and freight charges on Supplies by reason of the geographical location of Indianapolis.

Am always stocked up on the goods you want quick, and am careful to guard my reputation of being the promptest man in the business by sustaining it on every order.

I sell Root's goods at Root's prices—Danzenbaker hives, Section Honey-Boxes, Metal-Spaced Hoffman Frames, Bee-Smokers, Bee-Veils, Pouder Honey-Jars, etc.

Have you seen my new catalog? A postal will bring it.

WALTER S. POUDER, Indianapolis, Ind. TERRE HAUTE, IND.

Dear Sir:—The Pouder Honey-Jars were very satisfactory, only one broken jar in the whole lot of 900, which I consider fine. I had as many as 18 broken in a **half gross** bought of —— ———. The breakage knocked me out of using more of their jars. Yours as ever, T. H. KLOER.

Walter S. Pouder

513-515 Massachusetts Avenue
INDIANAPOLIS, INDIANA

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

THE HATCH WAX-PRESS

If you have been so unfortunate as to lose some of your bees the past winter, or even this spring, save the wax in the combs by the use of some good wax-press. If you look about you will probably find a lot of old combs in your neighborhood which you can get for a song. Wax is higher now than for many years and you should hurry it to market, for the present high prices will likely continue but a few weeks, at most. Our new Hatch Press has several valuable features, viz :

Durability.
Ease of operation.
Most thorough in its work.
Superior quality of product.
Low cost. Price is only $6.00.

WANTED

If you know of any one who has bees to sell this month, we can probably find a purchaser for the same—any number—5 to 100 colonies—provided we are given a brief, explicit description at once. Please state condition, hives, race, price, etc.

BEESWAX

We are paying at this date 31 cents cash or 33 cents in trade for pure, average beeswax, delivered at any of the following offices : Medina, Ohio; Chicago, New York, Philadelphia, or Washington. A large number of our jobbing agents make the same prices. See list of dealers in American Bee Journal for May 2.

BEE-HIVE PAINT

We are distributing agents for the B. P. S. Paint. This is one of the best hive-paints to be found on the market. We have handled it for 10 years or more, and do not recall a complaint in all that time. Equally good for your house or any indoor or outdoor work. We ship the O. W. (Outside White) from any of our offices; and the colors from Medina, New York, and Chicago. Send for color cards, etc.

SPECIAL

For the next 10 days from date of this paper, to test the value of these columns, we offer a copy of the book, "How to Keep Bees," price, $1.10, for only 60 cents, postpaid. Furthermore, we will promptly refund the money to any dissatisfied purchaser, even after you have read the entire book. You must send your order for this to Medina, and mention the American Bee Journal of this date.

LESSONS IN BEE-KEEPING BY MAIL

There is now, and has been for years, a greater demand for experienced bee-help than there are men ready for these places. Each winter and spring we are obliged to disappoint many large apiarists by telling them we do not know where suitable help can be found, The demand has already begun for the present season. We have found that many who take our course in bee-culture by correspondence prefer to go into business for themselves, so we still need active young men who have a fair knowledge of the subject—men whom we know something about—who can be recommended for the places frequently offered. We, therefore, offer again a limited course in

BEE-KEEPING BY MAIL.

We shall designate this as Course No. 2. The lessons are identical with the lessons in Course No. 1. The time, however, is limited to one year from enrollment. The course may be easily completed in 3 to 4 months. The following is the

OUTLINE OF COURSE NO. 2.
(17 Lessons.)

I. Definitions of Terms.
II. Inmates of the Hive.
III. Comb.
IV. Handling Bees.
V. Transferring.
VI. Building Up Colonies.
VII. The Honey-flow.
VIII. Swarming.
IX. Rendering Normal.
X. Preparing for Winter.
XI. Wintering.
XII. Spring Management.
XIII. Bee-Diseases, Symptoms.
XIV. Enemies of Bees,
XV. Establishing an Apiary.
XVI. Queen-Rearing.
XVII. General Examination.

TERMS OF COURSE—FULL CASH PAYMENT.

Complete course as outlined, lessons, personal answers to all questions, including the A B C of Bee Culture (500-page book), and Gleanings in Bee Culture (semi-monthly) for one year, $5.00.

With either the A B C or Gleanings omitted in case you have one, $4.00.

With both omitted in case you have both, $3.00.

USE THIS FORM IN ORDERING.

.....190....

THE A. I. ROOT CO., Medina, Ohio.

Enclosed find.....in payment of one complete course of instruction No. 2 in the Root Correspondence School of Bee Culture.

Name.....

P. O.....

State .....

County or Street.....

Express Office .....

PLEASE ANSWER THE FOLLOWING:

Have you a colony of bees? .....

Have you an A B C of Bee Culture? if so, what year published?.....

Are you at present a subscriber to Gleanings?

.....

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., MAY 23, 1907 | Vol. XLVII—No. 21

The Banat Bee

The editor of the Far-Western Bee-Keeper had a Banat queen sent him by Prof. Frank Benton. He reports Banatians as gentle as Caucasians, extremely prolific, but falling far behind other bees as storers.

Composition of Pollen

An Illinois reader asks: "What is the average composition of pollen?"

We don't remember ever to have seen an analysis of pollen, and a search in some of the books in which we thought it might be found has not been successful. The likelihood is that if an exact analysis were made of pollen from different sources there would be found no little difference. The word "pollen," too, is used for two different things—pollen as it is found in the flowers, and also as it is found in the hive. The latter consists of the former mixed with some honey, if we are not mistaken.

Ventilation of Bees

The generally accepted belief is that there is a systematic ventilation of the hive by the bees in hot weather, a regular detail acting in concert for that purpose. In a somewhat lengthy article in the British Bee Journal, Col. H. J. O. Walker combats this idea, saying in closing:

To sum up, I believe that although the air in the hive must be gradually renewed, and the bees sometimes assist towards the desired result by fanning, there is much less inlet and outlet than is generally supposed, and most of what takes place is automatic. Although I am well aware that a bee can produce, in proportion to its size, a strong backward or forward air motion in its immediate neighborhood, enough, perhaps, to extinguish a candle, I do not think that the action of the fanners always, if even generally, sets up an exhaust current.

This view will not be readily accepted by one who has held his hand at the entrance of a hive on a hot day. Yet Col. Walker is a man whose word has weight, and no doubt careful observations will be made the coming summer, that will give us more exact knowledge on the subject.

Worms in Combs

Combs that have been out all winter, subject to freezing, will need no immediate attention. Freezing has killed eggs and larvæ, and there is no further danger until moths have laid eggs in them afresh. If bees have died in the cellar, or outdoors any time after, say February, it is pretty safe to say that they are more or less infested with the pests. If kept in a cool cellar slow progress will be made by them, but outdoors, as soon as weather warms up, the worms will make rapid progress in riddling the combs.

"An Old Wives' Fable?"

Under the above heading appears under the signature of D. M. Macdonald, in the British Bee Journal, the following paragraph:

Certain statements once uttered become stereotyped, and, from oft repetition, are very liable to get established as so-called "facts." Here, on page 861 of the American Bee Journal, is one: "Not only some, but all honey light or dark that is put into sections is carried there from the brood-nest," and Mr. Doolittle is quoted as affirming that "when a fielder brings in a load of nectar she does not go with it into the super, but deposits it in some cell of the brood-chamber, whence it is afterwards carried into the surplus apartment." If true, let us go on believing it, but if even doubtful let us revise our ideas.

First, I would say that such heavy labor of gurgitating, regurgitating, charging and discharging into cells and carrying upstairs would be an *absurd* proceeding for any intelligent creature, and certainly so for one gifted with the brain powers of *Apis mellifica*. Second, I see no necessity for it. It would be a case of "Love's labor lost." Third, I have never seen any evidence of it. Fourth, and lastly, and including all the others, it is *impossible*. C'est impossible! shuts the door at once if true—which it is. With a heavy flow on, every brood-cell is crammed full of eggs, larvæ, young and old, sealed and unsealed, just emerging bees, or a percentage of cells being cleared dry for "Her Majesty's" use, along with a small percentage with unsealed honey and pollen ready for the nurse-bees to manipulate. Where, then, are the spare cells for just-gathered nectar to be even temporarily stored? No, like "Tom Bowling," it goes to the right place—"aloft!"

Of the four arguments used, it is hardly necessary to discuss any, if the last of them is true. And our Scotch friend asserts most positively that it is true, that it is *impossible* for bees upon returning from the field to deposit nectar in the brood-chamber. Well, if it is impossible, of course there's no room for argument; but there is probably no sin in asking Mr. Macdonald a question.

Will he kindly tell us what it is that one shakes out of brood-combs any day when bees are storing, when the combs are shaken hard enough to shake the bees off? However it may be in Scotland, "in this locality" it is the regular and orthodox thing for some kind of liquid to be shaken thus out of the combs—not merely a few drops, but spoonfuls and spoonfuls of it, so that one may collect from the different frames a gill or more of a liquid which looks like nectar and tastes like nectar, but which of course can not be nectar, as it is *impossible* for the bees to deposit nectar in the brood-combs!

We are all attention, awaiting Mr. Macdonald's reply.

Poultry or More Bees

A symposium in the Australasian Bee-Keeper seems to show a division of opinion as to whether it is better for a bee-keeper to be a specialist and keep more bees, or to run some other business in connection with bee-keeping; and of those who take the latter view the majority favor keeping poultry as a companion occupation.

American Bee Journal

Carbon Bisulphide for Eggs and Larvæ of Wax-Moth

J. L. Byer, in the Canadian Bee Journal, expresses increasing confidence in this remedy, and has proved to his satisfaction that a box or room does not necessarily have to be nearly air-tight for the drug to do its work effectively. He says:

Formerly our local druggists charged me 5 cents per ounce, but now I buy all I want from them at 25 cents a pound, and I surmise that at that figure they have a "reasonable" profit. If you have *many* hives full of combs to treat, carry them into a building and stack them up 5 or 6 stories high, put the bisulphide on top of all and cover securely, and you will be surprised and pleased to see how little of the drug is required to treat a large number of combs. Sulphur may be a trifle *cheaper*, but it does not destroy the moth-eggs, consequently it has to be used more than once; and it is, besides, a very disagreeable article to handle.

The Weather at Dr. Miller's is described as follows in a letter sent us May 16:

Weather for bees beastly. For one good day there are 2 to 4 bad ones. Dandelions enough to keep bees busy, and fruit is in bloom; but blossoms are no good without weather. No matter how good the season, it will hardly be possible for colonies to build up in time to do good work on clover.

Marengo, Ill. C. C. Miller.

Apiary of G. L. Sauer in Winter.—this appears on the first page this week. When sending the photograph on March 2, 1907, Mr. Sauer wrote as follows:

The picture of my apiary shows how I have the hives packed for the winter on the summer stands. I have 53 colonies, 45 of which are strong and in good shape; 8 were late swarms, and weak, but I fed them some last fall, and put a super with some honey in it on each, so I think they will pull through.

In preparing my bees for winter, I put wire screen on the bottom of the top box, then on the inside I put a piece of gunny-sack, and filled the top box half full of rye straw. Then I gave the bees a few puffs of smoke, pulled the cloth off, and set the top box on. After I had them all fixed in this way I boarded them up with ship-lap lumber, packing second-growth hay all around the hives. The hives face to the south, and the bees can get out when the weather is fit. They had a number of good flights this winter. I use the "Eclipse" hive.

If any one else has bees packed as I have described, and has any objections to it, I will be pleased to read about them in the Bee Journal. G. L. Sauer.

Disappointed Hopes seem to be the bee-keeper's lot in Southern California this spring. Prof. Cook, writing us from Claremont, Los Angeles county, on May 10, had this to say concerning the season and prospects for honey in that part of the State:

Owing to the generous and timely rains of the past winter, bee-keepers had good reason to expect an exceptional honey-year in California. And so we would have had except for the cold, foggy weeks of April and May. We had the same kind of a season a year ago. This cold weather acts in double way to lessen the honey crop. It tends to keep the bees from the field, and so closes the nectar-glands of the flowers that there is little or no nectar to gather. There is, however, room for hope even yet. The sages, both white and ball, are vigorous, and with warm, genial sunshine, which I think we must have soon, we may yet get a bountiful crop. I never saw more, and more vigorous, bloom, even in this land of sunshine and flowers.

A. J. Cook.

The New Canadian Postal Ruling is thus looked upon by Mr. R B Ross, Jr., one of our subscribers at Montreal:

Editor American Bee Journal:—Your issue of the American Bee Journal for May 9 has just come to hand, and before tearing off the wrapper I noticed that the changed postal laws had commenced operating on one of my favorite papers. It is with pleasure that I enclose herewith 50 cents to cover the extra charge—and which I believe is uncalled for—but that the American Bee Journal would be just as much appreciated at $1.50 as at $1.00. While from your standpoint the new arrangement may *appear* serious, I don't think many Canadian readers will be so short-sighted as to fail to renew on account of the higher cost. Yours sincerely,

R. B. Ross, Jr.

We believe Mr. Ross is right, that very few Canadians will stop reading United States papers because of the increased postage rate.

Apicultural Progress.—Prof. Burton N. Gates, of Clark University, Worcester, Mass., sent us the following with the picture of straw-skeps shown on the first page:

I have often questioned just where England stands to-day in the apicultural world. Surely there is many a master of the profession there; yet there is a trace of the antique, of "the way that father used to do," in most of their bee-keeping. It is hard to get out of the ruts worn by generations.

The query was once more brought to my mind, as, at one of the recent meetings of the Worcester County Bee-Keepers' Association, two hives, pictured in the accompanying illustration, were exhibited side by side. The larger of the two is one which was brought from Vermont, having been used there over a century ago, and long since abandoned for the more serviceable wooden hive. The smaller is one recently imported to this country from England, as a type largely used in that land to-day. Why the advantages of the American and the Continental types of hive—the improved methods of these lands—have not influenced the English people and satisfied them that there is no longer need for this skep is a problem. It is evidence of the proverbial dogmatism.

It is fortunate that America has been more ready to accept the improvements of the progressive. We have made long strides in practical bee-keeping. But our results are not those of systematic investigation. They are rather summation or collective benefits from a large number of individuals. They are trials and errors. What we need (and it is coming if the Department of Agriculture is permitted to carry out the work outlined by Dr. Phillips, referred to below) is a "long-headed," systematic research in apiculture characteristic of German science.

The old world has led in most scientific lines by Germany, by German investigation and invention. As American scientists we have always looked to Germany for much of our inspiration and encouragement. The American is ever in a hurry; he is after immediate results, and seeks them at hazards in the quickest possible way. Doubtless for this reason American investigation has been hampered; Germany has held the lead. The German investigator—scientist—has the peculiar persistence, "stick-to-itiveness," earnestness, and firmness of purposes, who, having conceived a problem, solves it with such full detail that it is seldom necessary to re-work or prove his findings. Such work, of course, has been done in America, particularly in recent days; but it has not been characteristic of American research. This is particularly true of biological investigation. We have but few American works in biology, which are the results of a lifetime's observations. Charles Darwin's admirable volume on the Earthworm, published after 40 years of study, or, as Darwin says, for that time "has been to me a hobby-horse, and I have perhaps treated it in foolish detail," it is a noble example of the German spirit in American research. Whether the labor was fruitless or not may be judged from the fact that within 3 years of its publication 8500 copies of the work were sold. Even to-day it is a masterpiece and model of dynamic biology.

But you question what bearing this has upon apiculture? It is most pertinent, and has a most direct bearing, to-day especially, here in America where the industry is growing so fast, and where the possibilities are so vast; refer to Dr. Phillips' paper read before the National Bee-Keepers' convention in November, 1906 (page 356). He has not overstated the case one grain; but distinctly outlines work which must be immediately undertaken.

If some one could do for bees what Darwin has done for the earthworm, the returns would be inconceivable, not alone, nor chiefly, in the moneyed sense, but rather in view of results upon the world as a whole. It may be difficult to see what benefit it would be to human health; but what do we know of the hygiene and physiology of honey-eating? It is difficult to conceive of the possibilities of such investigation on the fruit-growing industry, on the production and uses of wax; in fact, no one knows the possible benefit and the ultimate outcome of such work on apiculture itself. Our view of apiculture to-day is but a distant and fogged glimpse of a vast ocean of possibilities. Burton N. Gates.

Southern California Prospects.—The following letter by M. H. Mendleson to G. F. Merriam, both of Southern California, was sent to Mr. C. P. Dadant, of Hamilton, Ill., who thought it of sufficient interest for publication in the American Bee Journal in connection with Mr. Merriam's letter and his own reply:

Friend Merriam: — Yesterday was the the first clear day, and bees seemed to be busy. To-day is clear also. The scale hive showed the first gain. I also have been feeding considerably. Colonies were dormant until fed. I have better hopes now, although the bees are in a weak condition. But if we have clear, warm weather from now on we might have a partial crop. Worms com-

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menced in the sage, but good, warm weather will soon eradicate them.

Yours sincerely, M. H. MENDLESON.

Piru, Calif., May 2.

C. P. DADANT, ESQ.—

My Dear Sir:—I think it very strange that the editors of the bee-papers have not heard that we are likely to have almost if not quite a total failure of our honey crop. We had abundant rains up to April 1, and every one looked for a record crop. Then the rains cut off short, and we have not had any since. All the time we had cold, cloudy weather and no honey. Bees by the million go out, get chilled and die, so that all colonies are weak, and have very little brood. Then the paralysis began April 4, and is killing off the bees. I find 2 colonies this morning entirely gone—the first instance I have seen. I am just returned from sweeping dead bees with a broom away from in front of the hives. I am feeding all colonies. G. F. MERRIAM.

San Marcos, Calif., May 9.

DEAR MR. MERRIAM:—Yours of the 9th to hand. Misery loves company, so we hasten to tell you we are having the worst spring for bees that I have ever seen, and I have been in the business for about 40 years. Rain, snow, frost, and no bloom. Had a frost on the 11th. The fruits are about all killed.

I see the May disease is still giving you trouble. You will remember I wrote to you about it a year or two ago. I take it that the cold, wet weather causes it in some way, and it strengthens my opinion that something in the condition of the honey, either the old or the new, causes the start of the malady. Some have said it was spoiled pollen, but this ought not to make the adult bees sick as much as the brood, and it is the adult bees which suffer. If you see anything in that May disease that interests you I would like to know about it.

Honey is going to be a good price if things continue as they are. I hope the prospect may change soon.

The same conditions also exist in Europe. I received a letter from Switzerland, and they say that the weather is bad and the bees very much behind.

Our grapes have been touched by the frost, while the buds were yet small. We thought them all right till the few warm days came, when we found the buds dried up. There will be a few peaches yet.

Yours fraternally,

Hamilton, Ill., May 14. C. P. DADANT.

Surely the outlook is discouraging for bee-keepers in both the far west and also in the Mississippi Valley. The past has been perhaps the coldest spring known in many years; in fact, it has made a very long winter for the bees, and unless we can have seasonable weather very soon the honey crop will likely be a very short one.

We think there is no doubt about honey bringing a good price hereafter, and for several reasons. The pure-food law will prove a great help; and if the honey crop is short, whatever is produced should bring a fair price.

It is to be hoped that settled warm weather will come very soon to help out the bee-keepers as well as farmers generally. Fruit will also be high, in all probability. So much depends upon the weather.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

Working for Section Honey

BY G. M. DOOLITTLE

Having the wings of queens clipped, and all colonies looked after so they will be in the best possible condition to take advantage of the honey harvest when it arrives, our next thing to do is to see that the supers of sections are all ready to put on the hives at a moment's notice, when the right time for doing this arrives. The time for putting the supers in readiness is during the winter months, but if it has been neglected, it should be done *now*. Do not put this off till the harvest arrives, for if this is done we are often caught by having the best part of the season past while we are getting ready. *Always* have the "dish right side up to catch the honey." A few days' neglect of this will often turn what might be a splendid success into poor returns or an entire failure.

Having the supers all ready we should ever be on the alert to know just when to put them on the hives. They should not be put on until the colony which is to receive them is strong enough in numbers to fill the hive with bees and brood, for if put on sooner they only tend to retard the process of building up, which is the main thing we are aiming at in the early part of the season.

Again, no matter how populous the colonies, it is little use to put on the sections when no honey is coming in from the fields, for the bees will do no work in them, while with some colonies the bees will insist on tearing down the thin foundation put in the sections to help them start, where they cluster in the sections before any honey is coming in from the fields. Keep watch of the bees each day from the entrance, and when you see many bees coming in which strike heavily on the alighting-board; or the bees which are just outside of the entrance fanning look as if transparent about the locality of the honey-sac, then you may begin to think the time has arrived. If you wait until about 4 o'clock in the afternoon, and then put your head near the ground so that the sun will strike the bee as it runs into the hive, having the bee between your gaze and the sun, only so the sun does not shine in your eyes, you can tell on any day as to the amount of nectar the bees are bringing in The bee with no load of nectar will look dark or opaque, while the one with a sac full of nectar will look translucent, especiallay thus with the yellow races of bees. Then this will vary all the way from opaqueness to the most translucent, just according to the size of the load the bee carries. In this way I can tell almost to a half pound what a colony on the scales is bringing in.

Do not be deceived by now and then a bee dropping on the alighting-board being fully translucent, while all the rest are opaque. These occasionally translucent bees are carrying water into the hive; but where nectar is coming in to any amount, at least two-thirds of the bees coming in at this time of the day will show the light through their abdomens to an extent that you may know that they are getting more than a living from the fields. When you see this, open the hive occasionally, and when the bees begin to build little bits of comb here and there about the hive, and the cells along the tops of the frames are being lengthened with new white wax, the time is ripe for putting on the sections.

If the super is supplied with "bait" sections—which means from 4 to 12 sections partly filled with comb left over from the season previous—you will find that such baits will be pretty well filled with honey within a week, and the comb foundation in the rest well under way. It is then time to put on another super. And where shall this next super be placed? Under or over the one already on the hive? Ten years ago I should have answered, as did nearly every one then, and the majority of bee-keepers do so to-day—put this next super under by raising the first one up and putting the last super between the one the bees are working in and the hive. But after a practise of 10 years' trying the matter both ways, I now say put this empty super, except starters in the sections, *over* every time. In fact, for the past 4 years I have always put the empty super over the one the bees are at work in with the most gratifying results, as I not only secure larger yields of section honey in this way, but the sections are universally better filled.

With the old way of tiering up, I have come to the end of the season with thousands of sections worked in, not half of which were finished enough to be salable; but with putting the empty super on top when tiering up, nineteen-twentieths of the whole worked in by the bees were salable, even in the poorest of seasons. In the old way of tiering up, as soon as the first super was from half to two-thirds full, it was to be raised up and the empty one put under it, and next to the hive. This was said to cause the bees to work with redoubled energy to fill up this space between their brood-nest and the room they were at work in above, thus securing much more honey than would otherwise result. But after having the flow of nectar slacken many times soon

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after tiering up in this way, and in a few days cease altogether, this leaving me with double the number of sections worked in, with not one, or very few, completed; while when the empty super was put on top at the same time, I would have nearly every section in the lower super completed, with a few worked in sufficiently for baits the next year, I concluded that the old way was a delusion and a snare.

With the empty super on top the bees will go into it as soon as more room is really needed, and, as far as I can see, work to fully as good advantage as they will the other way, and that when a good yield of nectar continues right along for several weeks.

As soon as the first super put on is finished take it off, when enough work will be done in the second one put on to hold the bees right at work therein, the same now being set down on the hive and an empty super set on top of it to catch any overflow of bees which may come about. If this overflow amounts to filling this now third super (on top of the second), set the fourth super of the season on top of the last one put on, thus making the hive 3 supers high, which is generally enough to satisfy any colony.

As any full super is taken from the colony, lower the others down on the hive, putting all empty ones supplied at the top, and so on to the end of the season; and if you are anything like myself, you will be abundantly satisfied with the results.

When I used the old way, if I averaged 150 sections to the hive which the bees had worked in, I would have from 50 to 75 unfinished or unsalable sections out of every 150 worked in; but with the new way my proportion of unfinished sections has grown less and less, so that in the fall of 1905 the total of unfinished sections was only about 8 out of every 100 completed; while in the fall of 1906 there were scarcely 4 unsalable sections out of every 100 that were marketed, or hardly enough for "baits" for this year.

Borodino, N. Y.

Making Cement Hive-Stands

BY DR. G. BOHRER

Having made a number of cement hive-stands, it may be a matter of some interest to such bee-keepers as may think of making them, to know in what proportion to mix Portland cement and sand, and how to wet the same for use.

Take 6 gallons of good sand and one gallon of cement. Put them on a tight board floor. (I put mine on a common tongued-and-grooved door that is not otherwise in use.) Mix them thoroughly, dry. Then sprinkle the mass freely with water and stir well with a rake, shovel, or hoe. Then sprinkle again, repeating this process until the whole batch is sufficiently wet to adhere when pressed into a body.

Then put it into a box 16 inches wide and 20 inches long and 4 inches deep, inside measurement. The side pieces may be cut 26 inches long, sloping the ends beyond the end of the hive-body down to a point. Five inches back from where the slope begins put in a partition-board and one 6 inches from the rear end. This leaves a 6 inch space across the hive-stand not filled with cement. Set the box up where the hive is to sit, and level it. Do not nail the box together, but drive stakes on the outside to hold the boards in position. Then put in the cement mixed as directed, and with a piece of 2x4 or 4x4 scantling, say 3 feet long, stamp the mass of cement down so as to pack it into a solid body. When the mold or box is level full, smooth the top with a trowel or anything that will leave the surface smooth. Then, without waiting one moment, the stakes may be taken up and the boards removed, and the stand is completed. This must be done when there is no freezing, and in a few hours the cement will have set. The stand should be sprinkled 2 or 3 times per day for several days, so as to have the mass harden gradually, as it will be much harder than if permitted to dry out quickly.

The front end should be filled out down to the bottom of the slope at the ends of the side-boards with cement. This will serve as a landing for the bees in front of the hive. The dimensions of this stand fit the 10-frame Langstroth hive, and the amount of material used is sufficient for one stand, and not much more. There should not be more mixed for use than is required for one stand, as it is quite sure to set if permitted to stand only a few moments; and after once set it is never so good, as its cohesive power is destroyed.

One gallon of cement (the amount I use in making one stand) will cost from 10 to 12 cents. I pay 80 cents per sack, weighing 95 pounds. Not having weighed one gallon of cement, nor learned just how many gallons there are in one 95-pound sack, I can not state definitely the cost of a gallon, but think I have not put the cost per stand far from the correct price.

Lyons, Kans.

The Hershiser Hive-Stands, Etc.

BY F. L. DAY

It was with much interest that I read in the April 15th number of Gleanings Editor Root's account of their test of the Hershiser hive-stand in wintering a portion of their bees. I have the more interest in this matter because a neighbor of mine has used a similar stand for some years, and has often urged me to try it. His stand is ventilated at one end only, but this has a sliding screen, easily removed. When prepared for winter each hive has a large sheet of pasteboard, obtained from cracker-boxes, put on the floor of the stand to catch the dead bees or other waste matter. Several times during the winter these pasteboards are removed from each stand and carefully cleaned. Then there is no accumulation of dead bees to rot and mold.

I should consider the stand an improvement over the Hershiser, in having ventilation on only one side, were it not for the fact that my hives are left wide open on the bottom, and my bees winter finely. I have lost only 3 colonies in the cellar in 5 years. To be sure, I do have one thickness of burlap under the hive to help keep the bees confined when putting them into the cellar. But once in the cellar this burlap is loosened so as to fall away from the hive at the ends, so as to leave them open.

This neighbor's bees winter quite well, especially so considering that he never knows in the fall whether a colony has a queen or not. He winters only 10 colonies. Each season he increases by natural swarming to about 30 colonies. Then in the fall he selects the 10 that appear best on the outside, and sulphurs the balance. One year he secured 1000 pounds of surplus honey.

My colonies, as wintered with the hives open at the bottom, come out in good shape; the larger portion with bees enough to cover from 6 to 10 frames of brood. Very few weaklings that need to be helped. This spring, of 43 full colonies put into the cellar 2 were dead, 2 weak, and the other 39 in excellent condition. Each one of the 41, as well as the 4 nuclei, has a laying queen and plenty of stores. Taking it altogether, I am unable to see how it would pay me to invest in a hive-stand to shut my bees in during the winter when they do well without it.

Taking Bees from the Cellar.

It was with some degree of amusement that I read of G. M. Doolittle having a wheelbarrow with springs, and then putting on quilts to ease any possible jars to his bees at the time of taking out the cellar. Now I use just the opposite course with, I believe, even better success. I take a common railroad barrow, and put a few gunny-sacks in the bottom to fill up the hollow. Then I set a hive over these, the same having no bottom-boards, the hive having its 4 corners bearing on the sloping sides of the barrow, and wheel as fast as I can go over the rough ground about 25 rods from the cellar to the summer stands. When I lift the hive from the barrow and set it on its stand scarcely a bee comes out. In 10 minutes they commence to fly out slowly, and in 20 minutes they are in full flight.

This spring I used no smoke or other device, but put them all out as fast as possible. When about half through the wind turned to the north, the sky clouded over, and the temperature fell from 70 to 40 degrees. The last colonies put out did not fly much, but waited a day or two later, when the weather was warmer. I must say, though, that my bees have been quieter than usual this spring, and the cellar quite cool, which may have helped.

This spring I contracted the entrance of each hive as soon as on its summer stand, but did not see that it made any particular difference about the bees flying out. They came out just the same as in other years when I left the entrances wide open until near night. I contract the entrance of strong colonies to ⅜x1 inch, and the weak ones much less. I never have any chilled brood, no matter how cold

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the weather, and my best colonies usually swarm about June 1st.

Last fall Dr. Miller told a questioner that he would expect a colony fed on thin sugar syrup as late as Sept. 1, to die from dysentery before spring. Now, Doctor, my bees are *always* fed all the sugar syrup they need—half sugar and half water, mind you—*after Sept. 20.* Last fall I finished feeding Oct. 1, and there is no trace of dysentery in any of my hives this spring. Is this a matter of locality?

We are having a late, cold spring, snow storms and freezing weather right along. It is now May 1, and the ice is still in the lakes. I took my bees out of the cellar on April 18. We had several warm days so that I could examine all colonies, but since then it has been very cold. Bees are shut in their hives as in winter. I do not expect that they will get any pollen for 10 days yet. Most years they bring both pollen and honey from the willows before this time. But a bee-keeper must live in hopes.

Detroit, Minn., May 1.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Melilotus—Annual and Biennial

E. E. Hasty asks, "Am I right that the genus Melilotus (like Trifolium) has both biennial and annual members?"

Yes; we have them here in Texas! There are only a few of them, however, but enough to answer our question. *Melilotus Indica*, All., is an *annual*, quite abundant hereabouts, and with yellow blossoms resembling very much the cultivated yellow sweet clover, *M. officinalis*, which latter, however, differs from the first named, in that it grows somewhat larger and longer (both ways); that is, it is a biennial.

We also have *M. alba;* escaped and sparsely planted here and there, mostly by bee-keepers, on waste land and along fences. The climate, which, with its long, *dry* summers, seems not to suit the melilotus very well, is one cause why it is not more abundant.

There is considerable of white sweet clover in North Texas. Bees are in some seasons busy only on *M. Indica*, but always visit the other two—white and yellow.

The Texas Foul-Brood Law

Since the many discussions on foul-brood legislation and foul-brood laws, of which quite a number have been in print of other States, I have been requested to give our State law in the American Bee Journal. One reason for the request is that many bee-keepers are not acquainted with our foul-brood law, never having obtained a copy of it; and, secondly, to answer several questions in regard to "the workings" of our law.

There seems to be a question existing in the minds of quite a few who know of it, or suspect foul brood in some apiary, whether such knowledge *must* be reported to the State Entomologist. There are some apiarists who have had foul brood in their apiaries, but who kept it a secret with the intention of eradicating it themselves, only to have to report some time later, and often a great "mess" had been made of the whole apiary. In my inspection work several such cases came under my notice. The pride of the owner or possessor of the bees seems to be the cause of such procedure. It should not be done!

The first step should be to inform the State Entomologist if there be any trouble or any suspicion. Such reports are strictly private matters, and kept on file as such in his office. If the apiarist is not certain whether it is foul brood or not, a sample of the diseased brood should be sent to the State Entomologist, but directions for sending such sample should *always* first be obtained from the State Entomologist, who will give these in all cases, and send proper mailing packages.

Never try to treat infected colonies *unless* you have had experience in such work, and then report the case to the Entomologist at College Station, Tex., before doing so. If without this experience, let "the inspector" do the work for you. He will know how, and will save you much trouble, worry, *and bees.*

The common notion that an inspector should be feared instead of trusted, should be out of existence by this time, for the inspector is there to look after your interests, hence should be given all assistance necessary.

The following rules and regulations have been formulated by the State Entomologist for operating the Texas foul-brood law, and should be observed:

1. If any owner of, or any person having control of, honey-bees in the State of Texas knows or suspects that any bees so owned or controlled are affected by foul brood or any other contagious bee-disease, he shall report said fact to the State Entomologist in writing, stating the number of apiaries involved, the number of colonies in each apiary, and the number of colonies that are known or suspected to be infested with foul brood or other contagious bee-diseases.

2. Any owner or person having control of bees reporting infection, shall state the number of movable-frame hives in each apiary, also the number of box-hives, or such hives as will not admit of ready examination.

3. If any bees are kept in box-hives, or such other hives as will not admit of ready examination, the owner or person in charge will be notified by the State Entomologist to transfer all bees in the apiary to movable-frame hives, or such as will admit of as ready examination as any good modern frame hive, before a specified time. If for any good reason such a time is detrimental to the apiaries involved, the reason should be transmitted in writing to the State Entomologist, whereupon a date more agreeable to the owner or person in charge may be arranged for. In default of such transfer as above provided for, the case will be treated according to Sections 1 and 2 of the Texas Foul Brood Law.

4. When, upon inspection, an apiary is found to be infested, instructions for treatment will be prescribed by the State Entomologist. If the owner or person in charge fails to carry out such instructions, the State Entomologist, or his assistant, will give the necessary treatment at the expense of the owner, as provided for in Section 3 of the Texas Foul Brood Law. Every person who intends to barter, give way or receive bees, honey or appliances, should make certain that no infection is carried in such transactions or shipments. Where any doubt exists application should be made to the State Entomologist for inspecting the apiaries involved. Persons violating the provisions of this rule are deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not exceeding $200, as provided for in Section 4 of the Texas Foul Brood Law.

The following is the text of the

Texas Foul Brood Law.

An Act to provide for the protection of honey-bees against foul brood and other contagious diseases, and providing that all bee-keepers report to the State Entomologist when infectious diseases exist; providing for collecting the expense of eradicating the disease, and fixing the charges upon the owner of the bees; providing for the extermination of all contagious diseases, and providing penalties for the violation of this Act.

Be it enacted by the Legislature of the State of Texas:

Section 1.—If any owner of, or any person having control or possession of any honey-bees in this State, knows that any bees so owned or controlled are affected with foul brood, or any other contagious disease, it shall be and hereby is made his duty to at once report said fact to the State Entomologist, setting out in his report all the facts known with reference to said infection. The State Entomologist shall have full power in his discretion to order any owner or possessor of bees not dwelling in hives with movable frames, or not permitting of ready examination, to transfer such bees to a movable-frame hive within a specified time. In default of such transfer, the State Entomologist may destroy, or order destroyed, such hives, together with the honey, combs, frames and bees contained therein without recompense to the owner, lessee or agent thereof.

Sec. 2.—The State Entomologist shall prescribe such rules and regulations as may in his judgment seem necessary for the eradication of all contagious diseases of bees, and if at any time the Entomologist finds, or has reason to believe, that the owner or keeper of any bees, or the owner of any apiary has refused, or is refusing to comply with all or part of any such regulations, then and in that event the State Entomologist is hereby authorized to inspect said bees, and if necessary burn diseased colonies, appliances and honey, and do any and all things necessary in the premises to eradicate foul brood or any other infectious disease of bees.

Sec. 3.—When any owner or possessor of

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bees shall fail to carry out the instructions of the State Entomologist, as set forth in Sections 1 and 2 of this Act, the State Entomologist shall carry out such instruction or treatment, and shall present to the owner of said bees a bill for the actual cost of such destruction or treatment. In the failure of the owner or possessor of such bees to pay said bill within thirty days after the delivery of same to himself, tenant or agent, or within thirty days after mailing same to his usual postoffice address, the State Entomologist shall certify to the County Attorney of the county wherein such bees are located, the amount and items of said bill, and the County Attorney shall file suit for the recovery of said account. All moneys recovered by the County Attorney for such destruction or treatment shall be paid into the hands of the County Treasurer, to become a part of the fund for the carrying out of the provisions of this Act.

SEC. 4.—If any owner or keeper of any diseased colonies of bees shall barter or give away any infected bees, honey or appliances, or shall expose any other bees to the danger of infection of the disease, or shall refuse or neglect to make report as provided in Section 1 of this Act, he shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined in any sum not exceeding two hundred dollars.

SEC. 5.—The fact that the season when young colonies of bees will leave the mother colonies is near at hand, that there is no existing law properly governing colonies affected with foul brood, create an emergency and an imperative public necessity, requiring the suspension of the constitutional rule which requires bills to be read on three several days, and the same is so suspended, and this Act shall take effect and be in force from and after its passage; and it is so enacted.

Conducted by J. L. BYER, Mount Joy, Ont.

Coldest April on Record

The first pollen was gathered here on April 28. By all odds one of the coldest Aprils on record has just drawn to a close. Bees, as a consequence, are very backward, but as all honey and pollen bearing flora are also late to a certain degree, conditions may be somewhat equalized. A heavy rain followed by somewhat milder weather has improved the clover somewhat, but quite a large percentage of the alsike, and most of the red clover, has been damaged so much by "heaving" that the farmers have to plow it under.

Tarred-Paper for Hive-Protection in Spring

As mentioned on page 369, Mr. Hutchinson and others are quite enthusiastic over the use of tarred-paper for spring protection of the bees. Naturally when a man like N. E. France makes such sweeping assertions as claiming that bees so protected will have double the brood of unprotected colonies, many amateurs, as well as "old-timers," will be giving the plan a trial this spring. I venture to predict that the large majority of these experimenters will come to the conclusion that more is claimed for the plan than it is entitled to.

With all due respect for Mr. France and other advocates of tarred-paper, I feel pretty sure that, other conditions being equal, in order to get double the brood in one hive of what there is in another, some more factors than simply tarred-paper will have to be taken into consideration. As the most of my hives are packed on the summer stands till fruit-bloom, I have been able to try the paper only on a limited scale; but the results from said trials were not a "howling success" with me, and, personally, unless hives were very open at the joints, I would not be bothered with the paper at all. Hives that are fairly well made, entrance contracted, and a tray over the *top* of the hive filled with some dry material that fits *snugly* on the frames are, in my estimation, of far more value than paper.

One objection I found in regard to the paper, was that hives so wrapped would warm up too much during early spring days when the sun was shining; but with cold wind blowing, as a result the bees would be coming out of these hives when other colonies were quiet.

Colonies "Swarming Out" in Early Spring

The bees came out of 2 hives to day, acting as if they wanted to swarm. After flying a little they returned to their hives. What is the cause of such a performance at this season of the year, in Canada?

Elgin, Ont. H. S. DAVISON.

Unfortunately quite a number of bee-keepers have had some of this "swarming" during the present backward season. When bees *swarm* out of the hives in the early spring, there is something not right, yet the reason is not always easy to find out. One of the commonest causes is starvation, and when stores are all consumed and a warm day comes, if the bees have not perished they are very apt to leave the hives—indeed, they will do this during the summer time, too. Sometimes weak colonies affected with dysentery will act the same way, and *occasionally* a colony, seemingly in normal condition, will leave the hive.

Since I have been keeping bees only twice have I had these unseasonable "swarms." Six years ago, during a very warm day near the last of April, a strong colony left the hive and settled on the limb of a small cedar-tree in the yard. On examination the hive was found to be sweet and clean, with abundance of honey and pollen, and brood in all stages. What induced them to leave I know not, but the bees, on being returned, remained there and gave a good account of themselves that season.

My second case occurred only a few days ago, but this time there was a *reason*, as the colony was very weak, having suffered with dysentery, and spring dwindled badly. They settled on the corner of a hive in a small cluster; the queen, being clipped, was lost in the grass, and the bees scattered and went into other hives.

Reports of "swarming out" in the early spring are always more plentiful after a severe winter, and, as a rule, there is more of it with bees wintered in the cellar than among those wintered outdoors. I remember, some years ago, of a bee-keeper who lives some distance from here, who had a lot of this trouble the day he put his bees out of the cellar. Some 90 colonies were put on the stands, and inside of an hour over 20 had swarmed out. To say there was a "mix-up" would be putting it mildly. A number of queens were killed, and over a dozen colonies were lost. As the bees seemed to be in fair condition, just *why* they acted so is hard to say, and, fortunately, an occurrence of this kind is not very frequent.

Bees Enticed Out in Cold Spring Weather

Speaking of bees being enticed out of the hives by the sun on cool, windy days, reminds me of what Mr. J. F. Davison was telling me a few days ago. Mr. Davison is one of our prominent comb-honey men, and has an apiary of 175 colonies, of which 80 were wintered in the cellar and the balance outdoors. While walking through his yard last week, he called my attention to the fact that when he put out his cellar-wintered bees, half of them were put with entrances facing south, and the other half facing north. Without exception the colonies facing north are at this date *much stronger* than those facing south. Mr. Davison has experimented along this line before, and results have always favored the ones facing north.

The day I visited him the sun was shining brightly, but the wind was blowing cold from the north—in fact, it was a typical "dwindler," and it was quite noticeable that while the bees in hives facing south were flying quite freely, in the hives facing north scarcely a bee was moving.

Mr. Davison is so thoroughly convinced that, for early spring, hives are better faced north, that, in the future, if I mistake not, he will place all that way when taken from the cellar. It is

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only fair to say that his yard is very much protected by buildings, etc., and, with a contracted entrance, very little wind blows directly into the hive.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 417.)

The Secretary read the report as follows:

REPORT ON RESOLUTIONS.

Whereas, The National Bee-Keepers' Association, in convention assembled, has been royally received by the bee-keepers of Texas and the citizens of San Antonio, and have been shown great favors; therefore, be it

Resolved, That the National Bee-Keepers' Association extend its thanks to the Texas Bee-Keepers' Assocation, and the members of the Arrangement Committee, Messrs. W. O. Victor, Udo Toepperwein, Louis H. Scholl, F. L. Aten, and W. H. Laws, for the kind reception given to the members of the National Bee-Keepers' Association; for the many favors shown them; for the splendid arrangements made; and for the Mexican Banquet which they spread so lavishly for us, the participation in which will long be remembered as a token of the generous hospitality of the bee-keepers of Texas, which we recognize as the hospitable and kind-hearted spirit which the Texans have always shown to the people coming from all parts of the world, and for which the people of this great State of Texas are known.

Resolved, That we thank Mr. Bryan Callahan, the Mayor of San Antonio, for kindly giving us the privilege of the City Hall, at the front of which he joined the Association in a picture, giving us a lasting remembrance of San Antonio and its whole-hearted Mayor.

Resolved, That we extend our thanks to the press of San Antonio, and especially to the Daily Express for sending reporters to our meeting and giving the space of its paper so generously to the interest of our Association.

Resolved, That we thank the City of San Antonio for its hospitality and the free use of the Market Hall granted to us; that we thank the Business Men's Club of San Antonio and the Traction Company for kindly offering us a trolley-car ride through the City of San Antonio and its surroundings, showing our members the sights of this ancient and historic city.

Resolved, That we thank the San Antonio International Fair Association for setting aside last Thursday as National Bee-Keepers' Day, thus honoring the vocation of bee-keeping and bringing our convention prominently before the people of this State; That we thank Messrs. Goggan Bros., for kindly lending, for the use at our hall, a fine piano and organ; That we thank Mr. J. W. A. Hansens for his beautiful piano entertainments at the intervals between our sessions; That we thank Judge T. M. Paschal for his speech, and for the kindness towards bee-keepers shown by helping to invite us to this beautiful city.

Resolved, That we especially thank our worthy President, Mr. C. P. Dadant, for his able and just presiding over the meetings of our Association. That we renew our thanks to the General Manager of the Association, Mr. N. E. France, for the efficient work he has done in conducting the business of the Association, and for the great efforts he has made to further the interests of the members of our Association.

We also thank the Grand Central Hotel for our entertainment.

R. A. HOLEKAMP,
JAS. A. STONE,
C. C. PARSONS,
Committee on Resolutions.

Dr. Bohrer—I move that the Resolutions be adopted as read.

Mr. York—I second the motion. I might say that as the President is very modest, and his name is mentioned in the resolutions, I will put the motion. It is carried unanimously.

MAKING CERTAIN MEMBERS INELIGIBLE TO OFFICE.

Pres. Dadant—I have but little more business to perform. The National Bee-keepers' Association was organized a great many years ago by bee-keepers who were queen-breeders, dealers in bee-keepers' supplies, and editors—the men who were mostly interested in the progress of this Association. The Association has grown from 40 to 50 to several thousand; the conditions are different, the feelings are different. We find to-day that some members in the East are dissatisfied with the conditions as they are; they think that men interested in the sale of bee-supplies or the publication of journals should not be entrusted with the management of the Association. I feel that it is well to give all a chance to express themselves on the subject. We are only about 125 here, and we can not dictate, but we can, according to the Constitution, ask the membership to express themselves and amend the Constitution if they see fit. I have gone to the Committees on Resolutions and on Amendments, and we prepared some joint resolutions. We will propose them to you only to present these matters for vote. If they are approved by the whole membership they will exclude bee-supply dealers, queen-breeders and editors. I want to make you all feel entirely at liberty to vote on the subject, and I think it best to announce that I have decided to decline any further offer as President of the Association, so that you can feel that you are not voting against your President when you act upon the matter. I wish to say that Mr. H. H. Root, who is here, and his brother, E. R. Root, are entirely in accord with my views. We will give the membership a chance to amend the Constitution if they so desire.

A copy of the Resolutions prepared by the Committee on Amendments were read by Mr. J. Q. Smith, as follows:

REPORT ON AMENDMENTS.

Resolved, That the General Manager be instructed to place before the members of the National Association, the following propositions to be voted upon according to Section V., and Article 9, of the Constitution of the National Bee-Keepers' Association, concerning amendments, each proposition to be voted upon separately:

1st. Shall manufacturers, dealers, directly or indirectly interested in the sale of bee-supplies, and patentees of apiarian implements, be considered eligible to office?

2d. Shall queen-breeders, or importers of queens for sale, be considered eligible to office?

3d. Shall apiarian editors, associate or department editors, authors or publishers of works on bees, be considered eligible to office?

J. Q. SMITH,
W. O. VICTOR,
ROBT. A. HOLEKAMP,
C. C. PARSONS,
JAS. A. STONE,
Submitted by request. *Committee.*

Pres. Dadant—You have heard the report of the Committee, what will you do with it?

Dr. Bohrer—I object to the resolutions in their present form. I want another resolution offered, then vote against the whole thing. It is, that all men selling bees shall not hold office, and any man that deals in bees and honey shall not vote. It is not justice to ourselves and our officers and I am opposed to the whole thing.

Pres. Dadant—I fear that Dr. Bohrer does not understand. We are not asking you to vote, we are asking you to permit the matter to go before the members of the Association. We do not anticipate that each one of these sections will be adopted, but I think two of them, at least, will be adopted; but I want to give each of the members a chance to vote. We want harmony, and this is the only way to get harmony. We have things our way, and the East is not satisfied; give them a chance, which they could not have without an opportunity to vote on these

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resolutions. It takes a notice of 45 days, in order to act upon this next year; and then leave it to their fairness as to what shall be done.

Mr. Holekamp—If I ever have been sorry since I am a member I am sorry now. It seems there is a great dissatisfaction in the East about nothing. If we exclude these men we will be left. Now, I am in the Association and get letters from our members in Missouri. All of our members either have a few dollars worth of supplies or honey to sell, or they are queen-breeders, and if these resolutions would be passed I would recommend our Association to withdraw from the National, because if we lose all of those men, who are acting under the head of dealers, they will pay little attention to our Association, and those who do the work will be left out. If these resolutions should pass I would withdraw.

Pres. Dadant—I will call on Dr. Phillips to state to us what he thinks about the matter.

Dr. Phillips—What I have to say is not to be considered my attitude in the matter. I have attended meetings in several of the Eastern States. Perhaps those who are present do not know that in several parts of the East resolutions have been passed to withdraw from the National Bee-Keepers' Association, on the ground that the body is controlled by the bee-supply dealers, editors, etc. This dissatisfaction is manifested by the withdrawal of several State associations in a body from the National Bee-Keepers' Association, so there is no doubt of it. Now, in order that this division may have an opportunity to express themselves, they should be allowed to vote upon these propositions. Especially, to be explicit in this thing, the New York Association withdrew in December, last year, from the National Bee-Keepers' Association; several states have followed New York. Some of the individual men, who belong to the National, still retain themselves in the Association, and several of the members have withdrawn. These men have been members of the National, and many of them will become members as soon as this thing is to be voted upon and they have a chance to vote. Therefore, I am in favor of passing these resolutions in order to give them an opportunity. I think that these men should be allowed to have their say. The claim is made that these various interests that are specified control the National Bee-Keepers' Association for their own interests. These resolutions, if carried, will exclude from office the persons mentioned. At any rate, if these resolutions are approved, and it is put to a vote by the General Manager, we will have an opportunity to know what the people think about it. Pennsylvania passed a resolution to withdraw, but can not do so consistently. Pennsylvania is growing at a very rapid rate in bee-keeping affairs. If these resolutions are passed, I feel sure that this Association will not withdraw. New Jersey has withdrawn. Massachusetts is represented by a few members, but they have two societies that will join as soon as it is passed.

Pres. Dadant—According to the rules, it will be necessary for them to be passed upon and approved. It seems to me that if these people are as weak as they are represented to be, *they* should give in; if they are strong, *we* should give in. We are in a country where the minority give in to the majority, and that is what makes us great.

Dr. Bohrer—That being the case, I shall not object to their going before the National Association. I want to be at the next National meeting, and help kill the resolutions so dead that they will never be brought to the front any more.

Mr. Stone—I don't see where the fight is; I don't see anything they have to fight. Who are the directors, are they all dealers or editors?

Dr. Bohrer—They would be practically disfranchised.

Mr. Stone—I know of several, and I don't know of any that are supply dealers or editors; but I don't see anything for us to fight, and as far as that is concerned, I would feel about it like voting out all the agricultural papers and all the implement dealers; if I voted them out I would quit farming. If the bee-supply dealers, editors, etc., were voted out I would quit bee-keeping.

Mr. Rankin—I have been through the West a good deal, in California especially, and this dissatisfaction exists there to a certain extent. There are some who think an injustice has been done, and by giving them this opportunity this will square them. If you give in and do this, the next year they will deny that they ever said it. It seems to me that it is a safe proposition, that the National can not help but win out on. I don't want this Association to divide the States, I want to help the National, because it can not win any other way. For instance, the Fruit Association is composed of fruit-growers; a dealer would not have a voice in these matters. I call attention to the fact that the members in these dissatisfied States do not represent the bee-keepers of those States, nor do they represent the bee-keepers' associations.

Mr. York—I notice in the list of officers of this Association that there are some supply-dealers. It is too bad they are in, but how did they get in? Mr. Dadant did not do any political work to get in—he was simply elected by the membership of the Association. There are only a few that are dealers or editors. I have been in office myself, but I never did anything to get in, and I certainly did not vote for myself. Of course, it is too bad I am the Acting Secretary now. Really I don't see any sense in the opposition.

Mr. Kimmey—Will the next annual meeting have a chance to pass upon it?

Pres. Dadant—The Constitution calls for a 45 days' notice. Therefore, if we do not pass this, that would be putting off a chance for these people to get a hearing, while if we put it before them to-day, they can still have another chance to vote upon it at the election. We are giving you a chance to vote upon the amendment to our Constitution. One thing I think the members are forgetting, that we are not supposed to exclude anybody from membership. I expect to remain a member, but I expect to keep out of office. I would be much disappointed if you did not favor these resolutions to-day; it would look as if we were afraid to let them go before the Association.

Mr. Kimmey—I think that I am alone, and I don't want this amendment to the Constitution, but you want somebody to vote upon it. Now, if I understand, it gives us a chance now to approve to-day what we are to vote upon at the next annual election. I am opposed to the amendment; I don't propose to vote and approve it. I don't propose to say that I attended this meeting and approved of it. You are asking me to approve of them at this meeting. I don't believe in that kind of organization. Of course I am right. We are saying that a majority approved of it; you can not change this, the rule on Amendments in the Constitution here.

Mr. Stone—I can understand it only as Mr. Kimmey says. The Constitution says that it has to be approved at a previous meeting.

Dr. Phillips—As I understand, the whole thing is this: This Convention is not approving these things at all. The resolution says the next meeting will have an opportunity to approve this if they wish to do so. You are simply specifying business that is to come up at the next meeting. I am not approving of it. I want the membership to have an opportunity of a say. This will be held some time next year; if they approve of it, a notice will be given, and 45 days after the next Convention will be time to take this up.

Mr. Kimmey—Suppose that the next meeting occurs like this one—in November—the month of the election in 1907?

Mr. Holekamp—Very few of those here to-day will be present at this convention, if it is held in the East next year; and part of the bee-keepers will think that we approve of these amendments. Very few will understand it.

Mr. York—This, of course, is not in proper form for an amendment. To amend the Constitution we should form a new article. It has got to be put in proper form, and then the question is, Do we approve of this amendment?

Dr. Phillips—I think the President is right.

Mr. York—We are supposed to approve them at this previous meeting, else they can't go to the membership for voting.

Mr. Kimmey—We have no right to approve them.

Pres. Dadant—We have the right to instruct the General Manager to send it out to the whole membership.

Mr. Holekamp—I move that this whole thing be put on the table.

Dr. Bohrer—I second the motion.

Pres. Dadant—All in favor of this motion, say "Aye." The motion is carried.

(Continued next week.)

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Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Section Supers with Empty Comb

My bees did not store any honey in the supers last year, but put some comb in the sections. Will it be all right to put the supers on (as I took them off last fall), or do I have to clean the comb out and put in foundation or starters again? IOWA.

ANSWER.—If there's nothing but comb in the sections, and that comb is nice and clean, by all means give them back just as they are. If the bees have plastered bee-glue all over the comb, as they sometimes do when sections are left on late in the fall, such comb must not be used. The bees are very loth to accept it.

Strength of Colonies—Bee-Glue

I started with 2 colonies of bees 4 years ago, and I now have 25 colonies, all in good shape, I think.

1. My bees cover from 5 to 7 combs in an 8-frame hive. Do you call that strong, fair, or weak? I use Hoffman frames.

2. Can I feed sugar syrup so that the bees will put honey from fruit-bloom into sections?

3. Is there any wax in bee-glue? IOWA.

ANSWERS.—1. For April 22, especially this year, you may call them strong.

2. Not at all likely, and hardly advisable to try it.

3. No and yes. In pure propolis of course there is no wax; but in propolis scraped from sections or frames—indeed as bees use it in general—there is more or less wax, as you will find out if you melt it.

Would It Prevent Swarming?

Why not at the time of opening the hive and removing the old queen, save one of the best cells that will batch in a few days—say 5? Would not this queen, upon arriving home from her mating trip, destroy all queen-cells in the colony? Would it prevent swarming? MICHIGAN.

ANSWER.—This question appeared on page 378, and by what means it happened that it wasn't answered I do not know. I am not sure that I understand just what is meant, unless it be that when queen cells are found in a hive the old queen is removed to prevent swarming, all queen-cells being removed at the same time except one, and from that one a virgin is expected in about 5 days. The bees would be sure to start other queen-cells, and the question is whether the young queen would not destroy them on returning from her mating-trip, and whether it would prevent swarming. I must frankly say I don't know, and I wish some one who has actually tried it would tell us. If the cells were old enough it would be practically certain that the oldest virgin would issue with a swarm. But if no cell is left but one, and that one is old enough to send out a virgin in 5 days, then no subsequently started cells will allow other virgins to emerge until a week later—possibly 6 days later. The question is: Would the young queen swarm without waiting for any of the later queens to mature? Would she swarm as soon as one or more of them had matured? Or, would she remain without swarming, the later cells being destroyed? Who will tell us?

Wood Strips or Splints for Fastening Brood-Foundation

I have been interested in wood-strips as foundation-supports, and would like to have you tell me just the size of wood you would use for this purpose. I should think that strips ⅛-inch wide and quite a little less than 1-10-inch thick would do better than thicker ones. I suppose you have tried different sizes. What would you advise? MICHIGAN.

ANSWER.—You are quite right that the size of splints you mention will be better than larger. And it is equally true that something still smaller is better. The size I use altogether is 1-16x1-16. I am not sure that I ever tried any different size, and as this size gives entire satisfaction, I hardly think it worth while to try other sizes. This size holds the foundation perfectly straight, so there is no object in trying a larger size; and as a splint of this size appears not the least bit in the way, there is no object in having a smaller size. I never knew a single cell that was not occupied by the queen on account of the splint being in the way, and generally you can not tell by the surface of the comb where a splint is.

What Caused the Commotion?

On April 9 I hived a swarm in a 10-frame hive and contracted the entrance to about half its usual size. On the 27th, in the morning, I noticed quite a commotion at this hive. The air in front was full of bees, around the entrance it was black with them, and some boards I have laid in front to keep the grass down also had a lot of bees on them. I thought they were swarming. Some time later they quieted down (they did not swarm) and I noticed the bees on the boards in front were dead. There must have been 200 of them. There were also a good many drones among them. The day before I had put a super on this hive. When I found there had been trouble I closed the entrance more. What was the trouble? CALIFORNIA.

ANSWER.—No telling for certain. It might have been that a weak swarm tried to enter and was killed.

A Troublesome Neighbor

I live in a town of about 100 inhabitants, and have 70 colonies of bees on the back of my lot, where they molest no one. One neighbor, however, claims that the bees are a nuisance, and told me to take care of them or he would kill them all. All the rest of my neighbors stand by me, and say they are not bothered by the bees. What would you advise me to do, for the opposing neighbor is a very bad man? I treat him as well as I can, but it seems to do no good. WISCONSIN.

ANSWER.—There is nothing in the case specially different from what it would be if your unkind neighbor should threaten to injure any other property. So long as there are only threats, it is hardly worth while to pay any attention to them, although it is well to keep in mind always the saying of the wise men: "A soft answer turneth away wrath." If the threats should materialize into action, there is the same remedy at law that there would be if he should injure your horse or cow. In any case, if you are not already a member of the National Bee-Keepers' Association, you would be wise to send at once a dollar either to the office of the American Bee Journal, or to General Manager N. E. France, Platteville, Wis., to become a member. The very fact that you were a member of such a powerful organization would have its effect in deterring from a conflict.

Fastening Brood-Foundation — Entrance-Guards and Swarming—Number of Colonies to Average $600

1. What is the best way to fasten foundation in Danzenbaker brood-frames?

2. Why couldn't I use bee-entrance guards to keep down swarming when running for comb honey?

3. How many colonies would it take to average $600 a year, if run properly? MINNESOTA.

ANSWERS.—1. By means of the saw-kerf and wedge that are sent with most top-bars nowadays. A saw-kerf receives the foundation, and the wedge is pushed into the other saw-kerf by its side. Be sure to drive the wedge down as deep as you can.

2. How do you suppose that would keep down swarming? Likely you will say the queen can not get out. Yes, but the bees will swarm just the same, and after they have swarmed often enough the queen will be killed and a young queen will take her place, and the bees will swarm worse than ever with the young queen, and if you don't take away the guard the queen will be a drone-layer.

3. It varies so much that it's hard to give any kind of an answer. In some localities it would take twice as many colonies as others. In some years it would take 10 times as many as in others. It might be any where from 100 to 250 colonies.

Moldy Combs with Sour Honey—Spacing Combs, Etc.

I put 5 colonies of bees, one little better than a nucleus, into a good bee-cellar of a neighbor who has the habit of running things to extremes. The two previous winters his bees wintered on 7 or 8 pounds of honey, weighed in and out of the cellar. Last winter was so very mild that many of his bees were lost in the cellar and so this winter he often opened the windows and doors from another room and kept the place so cold that they ate 17 pounds of honey per colony. That is, they averaged that. Many mice also got among them and worked in the planer-shavings with which they were packed. They were set on 4-inch scantling without bottom-boards, 3 tiers high.

I put my hives on bottoms 5 inches deep, with strips of perforated ⅛-inch zinc, about 2½ inches wide and nearly as long as the hives on two opposite sides. The bees were *entirely* closed in, something on the Hershiser plan, but I doubt if I shall do it again. The nucleus had, I think, nearly 3 frames of bee and a young vigorous queen put in very late. She was laying Nov. 2, and 3 days ago (May

American Bee Journal

3), she had laid eggs with only half a teacupful of bees. Another hive had only a pint of bees and I put them with her on Friday without any precautions, they having been queenless, and on Saturday, May 4, there fell from 4 to 6 inches of snow, and sleighs were running, though much of the snow had gone with the sun that came out towards noon, but it was freezing hard again at night. Some of the snow still remains (Monday morning the 6th), and although the thermometer is up to 36 degrees, it is chilly enough for Greenland, and this is some 10 miles north of Port Hope on the north shore of Lake Ontario. So on account of the cold, I have not been able to tell whether the pint of bees have killed the young queen or not. Another colony has perhaps 3 frames of bees and a queen, with eggs and larvæ. Another has perhaps 4 frames of bees, and, I think, no queen. These frames were all of the Danzenbaker type, only 9 inches deep and 13¼ inches long, set crosswise in the hive. The only colony that came out reasonably was in the same style of hive with frames 11 inches deep. They had probably a pint of dead bees and they were put out of the cellar on Wednesday, May 1, the soft maples just coming out on the previous Saturday. On Friday there were lots of eggs in this hive from a 2-year old queen, and the bees were carrying yellow pollen. This might have been a big colony had I not kept robbing it to build up the lesser ones. After this much of history, that will certainly interest some of your bee-keeping beginners, I want to ask you some questions.

1. The bees being dead, some of the beautiful white combs are moldy, and I have read somewhere that cleaning moldy combs by the bees causes bee-paralysis amongst them. But what troubles me most is that in nearly every comb are some 50 or more cells of uncapped honey that has fermented or has bubbles in it. I set one of them in the house near the stove, and the fermentation went on so lively that the bubbles overflowed the cells in a few hours. Many of these frames are from a third to half full of good capped honey, but spotted by excrement. Shall I have to throw away these beautiful combs on account of fermented honey in them? This same man in whose cellar I wintered my bees, spoiled hundreds of pounds of honey by uncapping just such bubbled cells as these last summer. I would rather melt them down for wax than run such a risk. What shall I do with them and the moldy ones that I think less dangerous? Not knowing what to do with them the moth may get into them if not otherwise disposed of.

2. There have been tons of ink and paper wasted over spacing combs. I saw, last summer, simply a strip of hard-maple wood ¼-inch thick and the length of the hive, with notches ¼-inch deep cut in one edge at equal distances apart, to slip down over the ends of the frames. I think hard-maple is about the only wood strong enough for these frame-spacing strips. The hive in which I saw them was at the time perfectly clean of bee-glue. Whether the strips had been greased or not I can not say, as I did not ask. They looked as if recently cleaned.

3. On page 583 (1906), the last letter is signed by Julius Happel, and the last sentence reads thus: "Later on I will give a plan by which 20 colonies can be formed from 2, and still produce a surplus of honey." Has he ever fulfilled his promise? or, if he did, where can I find it? If he did not, stir him up to do so.

4 I criticise the American Bee Journal for these half-told stories more than for anything else, and only last week I wrote Mr. York under my full name to that effect. The worst article I have seen was headed, "Rearing and Mating Queens," page 338, by Jacob F. Hershey. "With my method I need not make any nucleus colony," and so he goes on, only boasting, boasting, boasting, and nothing else. ONTARIO.

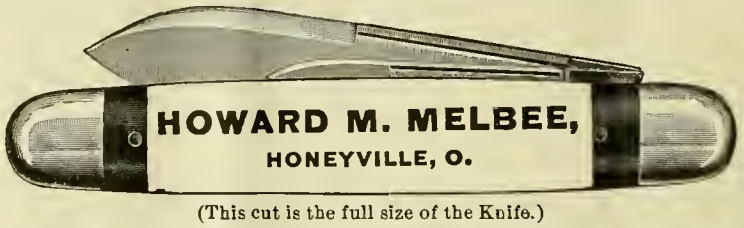
ANSWERS.—1. Don't be in any fret about those combs. They're good stock yet. All the mold that gathers in one winter can soon be cleaned off by the bees. And the souring honey will all be cleaned up by them, too. But don't be in too much hurry about the matter. The worms will make little headway till it gets pretty warm, and if put in the cellar will do little damage till June. As soon as bees are flying every day, and that ought to be as soon as this gets into print, give a comb at a time to the stronger colonies, giving another every day or two. An easier way is to give a whole hiveful at a time, giving to the strongest colonies. Set the hive of combs to be cleaned under the colony, so they will have to go through this lower story when going out or in. Better do this about the time when bees stop flying in the evening, for if given earlier in the day it is barely possible that the smell of the fermenting honey might attract robbers. I don't know of any case on record where moldy combs or fermenting honey gave any disease to the bees if given thus early in the year, although such honey would be sure to give them diarrhea if given as winter stores. But paralysis will not come from moldy combs nor from fermenting honey at any time of the year.

2. This plan of spacing combs is very old, but it is too troublesome and time-consuming to be in general use. If you try the two ways side by side, you will probably much prefer to have the spacers on the frames.

3. On page 723 will be found what he probably refers to.

4. Please don't blame the American Bee Journal too much, for I don't think it often happens that mention is made of some improved plan only to keep such improved plan a secret. But I quite agree with you that said Journal might better omit all such advertising of people that possess secrets unless published at regular advertising rates. What's the good of advertising a secret unless its possessor is ready to sell it, in which case he should pay for the advertisement just as other advertisers do.—[Mr. Hershey has promised to describe his methods later.—EDITOR.]

American Bee Journal Novelty Pocket-Knife Gold Fountain Pen } All for **$3.00**



(This cut is the full size of the Knife.)

Worker

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

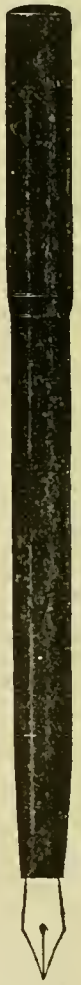
How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

Drone

SOLID GOLD FOUNTAIN PEN

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.



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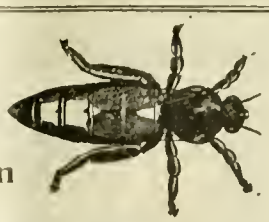
We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00. Address all orders to

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

American Bee Journal



Standard-Bred Italian
FREE
PREMIUM QUEENS

We are booking orders now for those **Fine Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

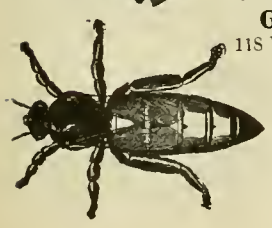
George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

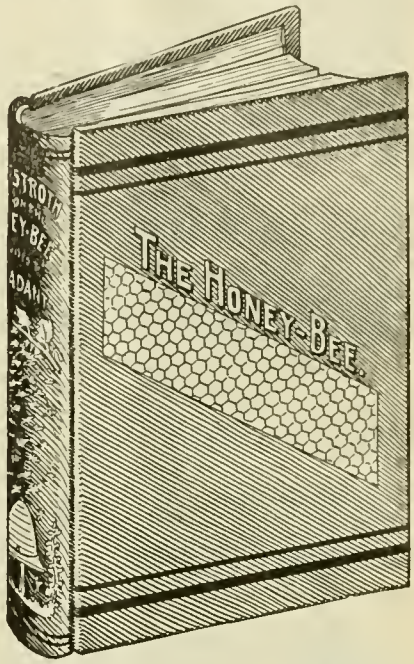
GEORGE W. YORK & CO.
118 W. Jackson Blvd., CHICAGO, ILL.



Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P Dadant. Each subject is clearly and thoroughly



explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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DOOLITTLE & CLARK

Have some fine Italian Queens of last fall's rearing that are ready to be sent out, by return mail, at $2.50 and $5.00 each.

Borodino, Onondaga Co., N.Y.
21Dtf Please mention the Bee Journal.

Standard-Bred Queens

Reared from Imported and Home-Bred Caucasian, Carniolan, Hall's Superior Goldens, and Leather-Colored Italian Breeders. Their bees are honey-getters. Untested Queens, $1; 6, $5; 12, $9. Select untested, $1.25; 6, $6; 12, $10. Tested, $1.50; select, $2.50; best, $5. List free. T. S. HALL.
11D8t JASPER, Pickens Co., GA.

Moore's Long-Tongue and Golden
—QUEENS—

Fine Select Untested Queens, $1; 6, $5; 12, $9. Tested, $1 50; 6, $8. Best Breeders, $3.50. Safe arrival guaranteed. W. H. RAILS, Orange, Cal.
9D13t Please mention the Bee Journal.

American Bee Journal

TEXAS QUEENS

The Famous Honey-Producers

Texas Queens

The Famous Honey-Producers

I am booking orders now for April, May and June delivery, for **Carniolans, Italians,** and **Goldens**—equal to the best, regardless of price. PRICES:

Tested Queens	....$1.00 each;	$10.00 per doz.	
Warranted "	.... .75 "	7.00	"
Untested "	.... .50 "	5.50	"

6Atf **GRANT ANDERSON, Sabinal, Texas.**

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc, as we can save you time and freight. Beeswax Wanted for Cash.

H. M. HUNT & SON,
REDFORD, Wayne Co., Mich.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, 1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
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Queens and Nuclei

Circulars Free.

D. J. BLOCHER, Pearl City, Ill.
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ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

One Untested Queen	$1.10
" Tested Queen	1.50
" Select Tested Queen	1.65
" Breeder Queen	2.75
" Comb Nucleus (no Queen)	1.15
" Untested Caucasian Queen	1.25
" Tested Caucasian Queen	1.75

Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

J. L. STRONG
5Atf 204 E. Logan St., CLARINDA, IOWA.

Angel's Golden Beauties

—AND HIS—

Bright Three-Banded Italian Queens

Have but few equals and no superiors. A fine, large Queen of either strain for $1; an extra-select breeder for $2.50. Have had 12 years' experience at queen-breeding. Address,

SAMUEL M. ANGEL
20A13t R.R. No. 1, EVANSVILLE, IND.

Your Order for Queens

Will be promptly filled. We can supply both tested and untested Italian Queens, your choice of either imported or home-bred mothers.

Our bees are bred for business; our Queens will not disappoint you. Tested Queens, $1.00 each; Untested Queens, 75 cents; $8 per doz.

J. W. K. SHAW
20Atf LOREAUVILLE, Iberia Pa., LA.

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We will Buy and Sell HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

Beeswax

at highest market prices.

Hildreth & Segelken
265 & 267 Greenwich Street
NEW YORK, N. Y.

QUEENS

Caucasians, Italians, Cyprians and Carniolans

Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00 one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear: payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

P. HAUNSCHILD, the Queen-Breeder.
20A13t Weisshach b. Pulsnitz, i. Sa., Germany.

Breeding Queens and Nuclei

We offer for early spring delivery (by mail) Choice Italian Breeding Queens at $2.50 each.

Also, 3-frame Nuclei of Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

Well-Bred Queens

Will greatly increase the yield of honey. Am now taking orders for **Cook's Select-Bred Queens**—to be sent as soon as weather permits mailing. Also Caucasian Queens from imported stock.

Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

J. H. M. COOK
70 Cortlandt Street, NEW YORK, N. Y.

The Oldest Supply-house in the East, and only Reliable Goods sold.

10 cents brings sample jar by mail.

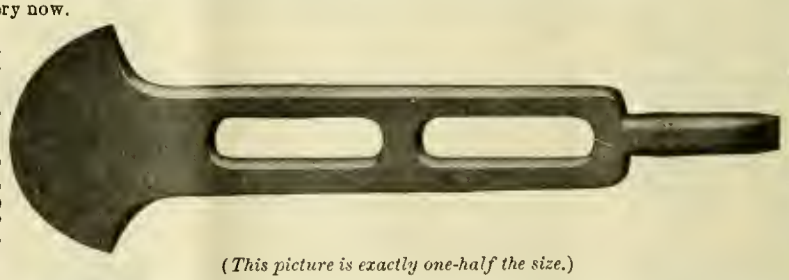
17A13t Mention the Bee Journal

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

Something New=The Ideal Hive-Tool

Bee-keepers have long needed a special Tool to work among the hives during the bee-season. The one shown here was invented by Wm. Muench, a Minnesota bee-keeper, some years ago, but it was not on the market before. We have lately bought this Tool, and all rights, from Mr. Muench's widow, and have had the first lot made. They are ready for delivery now.

Best Hive-Tool



Only 30c, by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8¼ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood.

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In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us saying he thought "just as much of the tool as ever."

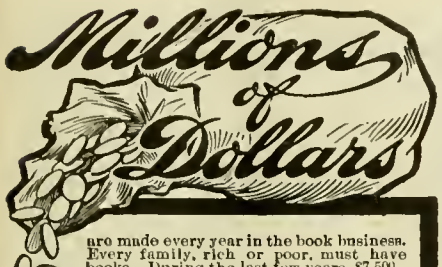
Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents. Address,

GEORGE W. YORK & CO., CHICAGO, ILL.

American Bee Journal



are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

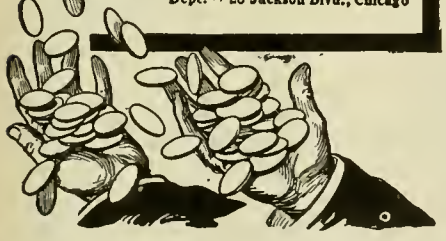
Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
Dept. G 28 Jackson Blvd., Chicago



BEE-SUPPLIES

PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

Now is the time for you to buy your **Bee-Supplies.** We manufacture **Bee-Hives** of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

Mention Bee Journal when writing.

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Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

U. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich.

Patented May 20, 1879. **BEST ON EARTH.**

BEE-SUPPLIES

Hives, Sections, Comb Foundation, Smokers, etc. Best of goods, reasonable prices, and a "square deal." Send for free catalog.

ARTHUR RATTRAY, Almont, Mich.
12A13t Please mention the Bee Journal.

Simplex Bee-Hive —The plainest, the cheapest, most durable, perfect, efficient implement. Constructed without boards. Any one can manufacture it. License of U. S. Patent granted. Address,
17A6t P. O. BOX 332, Colton, Calif.

Mention Bee Journal when writing.

ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen after June 1, $2.00 GEO. W. BARNES.
15A26t Box 340. Norwalk, Ohio.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders **NOW.**

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4 00
Tested	$1.00	" "	5 00
Selected tested	1.25	"	
Two-frame nuclei with untested queen			2.00

Orders filled in rotation. Send orders to

E. A. SIMMONS, Greenville, Ala.
17Atf Please mention the Bee Journal.

Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

99 Percent of your Wax can now be saved by using the

HERSHISER WAX-PRESS

Manufactured Exclusively by

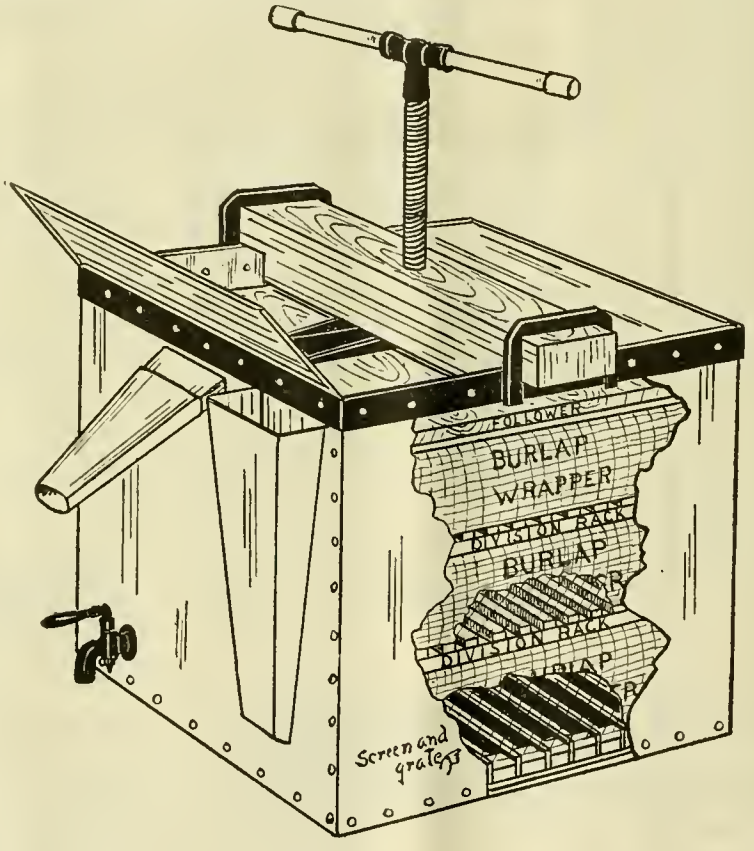
G. B. LEWIS COMPANY, Watertown, Wis.

"NOT IN ANY TRUST."

We are offering to our customers this year for the first time the Hershiser Wax-Press, a cut of which is herewith given. It has just been invented, and consequently has never before been offered for sale.

The Hershiser Wax-Press is not only the best wax-press ever put on the market, but it is an almost perfect device for extracting wax. WE WILL GUARANTEE IT WILL EXTRACT WITHIN 1 PERCENT OF ALL THE WAX CONTAINED IN THE SLUMGUM PLACED IN IT, IF PROPERLY OPERATED. All the other wax-presses now in common use will necessarily leave in the slumgum a large amount of wax, the quantity varying from 8 to 25 percent; in other words, the Hershiser Press is able to get about 7 percent of wax out of slumgum after the very best of all other wax-extractors has obtained the greatest possible amount of wax from it.

For Sale Everywhere. Ask Your Dealer About It.



Read what One of the First Users, who is an Experienced Bee-Keeper, says of the Hershiser Wax-Press:

MR. O. L. HERSHISER, Buffalo, N. Y.

My Dear Sir:—I have had one of your wax-presses for about 30 days, have used it about one-half of the time and got about 700 pounds of nice wax from the slumgum and refuse that accumulated in 18 months from the kettle and boiling process of getting out wax that I have used for years and thought I got out all the wax. The machine more than paid for itself in 5 days. Mr. Hershiser, I think I am safe in saying that I have thrown out in the field $100 to $150 worth of wax each year for the last 10 or 15 years. You surely have them all stopped on wax-presses.

W. L. COGGSHALL.

Price and full information given in the Hershiser Folder, sent free by

G. B. LEWIS COMPANY

The original bee-ware people, Watertown, Wis., or its distributing houses as given below:

DISTRIBUTING HOUSES

ENGLAND—E. H. Taylor, Welwyn, Herts.

FRANCE—Raymond Gariel, Paris, 2 ter Quai de la Megisserie.

CUBA—C. B. Stevens & Co., Havana. 19 Oficios C. B. Stevens & Co., Manzanillo.

CALIFORNIA—The Chas. H. Lilly Co., San Francisco, 141 Spear St.

SOUTHERN CALIFORNIA—Paul Bachert, Lancaster.
Doyle-Barnes Co., San Diego.
Fallbrook Co-operative Ass'n, Fallbrook.

COLORADO—Colorado Honey-Producers' Association, Denver.
Arkansas Valley Honey-Producers' Association, Rocky Ford.
Grand Junction Fruit Growers' Association, Grand Junction.
Robert Halley, Montrose.

IOWA—Adam A. Clarke, Le Mars.
Louis Haussen's Sons, Davenport.
W. J. McCarty, Emmetsburg.

ILLINOIS—York Honey and Bee-Supply Co., Chicago, 191 E. Superior St.
Dadant & Sons, Hamilton.

INDIANA—The C. M. Scott Co., Indianapolis.
MICHIGAN—A.G.Woodman Co.,Grand Rapids
MINNESOTA—Wisconsin Lumber Co., Minneapolis, 432 Lumber Exchange.

MISSOURI—E. T. Abbott, St. Joseph.
OHIO—Norris & Anspach, Kenton.
OREGON—The Chas. H. Lilly Co., Portland.
PENNSYLVANIA—Cleaver & Greene, Troy.
TEXAS—Southwestern Bee Co., San Antonio, 438 W. Houston St.

UTAH—Fred Foulger & Sons. Ogden.
WASHINGTON—The Chas.H.Lilly Company, Seattle.

American Bee Journal

A GREAT IMPROVEMENT

Will be found in

The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

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Complete stock for 1907 now on hand.

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as most all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will SAVE MONEY BUYING FROM ME.

Satisfaction Guaranteed.

Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate aplaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 9.—Very little honey on the market of any kind. Prices are therefore nominal. A little choice white clover comb sold at 17c, and would bring that at present, but supply seems to be exhausted; even with this scarcity there is no demand for No. 2 grades. Extracted, white, 7@8c; amber, 6@7c. Beeswax in good demand at 32c. R. A. BURNETT & Co.

CINCINNATI, April 16.—There is nothing new in the honey market, excepting that this part of the country is bare of comb honey, and it is well, for cousumers will appreciate the new crop more when it arrives. We are selling extracted amber honey in barrels at from 5½@6½c. Fancy table honey, 8½c@9c, in crates of two 60-pound cans. For choice yellow beeswax, free from dirt, 32c cash, delivered here.

THE FRED W. MUTH CO.

PHILADELPHIA, May 11.—The continued cold weather has made the sales in the comb honey market hold out much later than usual. Quite a good many sales have been reported in the last 10 days. Prices have been steady and at the present time show a little tendency to weaken. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm at 32c,

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, April 12.—COMB HONEY.—There is very little doing; stock of white honey of all grades is practically cleaned up, and small shipments which arrive from time to time, find ready sale at 14@15c for choice white stock, and 12@13c for off grades. Considerable dark comb honey is left on the market, and there does not seem to be any demand whatsoever. We quote nominally at 10@11c, but in large lots we doubt whether this price can be realized. EXTRACTED HONEY.—California stock seems to be well cleaned up, and we are informed that there is very little left on the Coast, and, before the new crop is marketed, whatever is on the market now will have been consumed. The prospects in California are very good for a large crop, but nothing definite can be said at this time, and there is no surety of a big crop until it is actually gathered. Last season the outlook was just as good, but in the height of the season, cold northern winds and generally contrary weather affected the crop to such an extent that it was small as in previous years. With favorable weather in California for the next two months a large crop will undoubtedly be harvested, and if so prices will naturally be considerably lower than those of the past season and present prices. We quote white sage at from 7@9c, and light amber at from 7@7½c. Near-by, as well as Southern honey, is well cleaned up, and the markets are in good shape for new crop. Cuban and other West Indian honeys are arriving in large quantities, most of which are sold for export. The market is firm, at from 58@60c per gallon, duty paid according to quality. Beeswax firm and steady at from 30@31c.

HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.

THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, May 4.—Receipts of comb and extracted honey are light; in fact, the market is almost bare. The demand for comb honey is good, but for extracted is rather light. We quote: No. 1 white comb, 24 sections, $3.25; No. 2, $2.75; No. 2 amber, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 50c.

C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, April 3.—The market on honey is entirely bare of fancy comb honey; No. 2, selling at 12½c, and slow sales. Light amber extracted sells in barrels at 5¾@6c. Beeswax 32c, delivered here. C. H. W. WEBER.

HONEY AND BEESWAX

When consigning, buying or selling, consult

R. A. BURNETT & CO.

199 SOUTH WATER ST. CHICAGO, ILL.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

BEE SUPPLIES.

We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

THE FRED. W. MUTH CO.,

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DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best. It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and Catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville. Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S. S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobeli, Glenwood.

47th Year MAY 30, 1907 Number 22

AMERICAN BEE JOURNAL

Cover Them Over

BY WILL CARLETON

Cover them over with beautiful flowers;
Deck them with garlands, those brothers of ours;
Lying so silent, by night and by day,
Sleeping the years of their manhood away;
Years they had marked for the joys of the brave;
Years they must waste in the sloth of the grave.
All the bright laurels they fought to make bloom
Fell to the earth when they went to the tomb.
Give them the meed they have won in the past;
Give them the honors their merits forecast;
Give them the chaplets they won in the strife;
Give them the laurels they lost with their life.
Cover them over—yes, cover them over—
Parent, and husband, and brother, and lover;
Crown in your heart these dead heroes of ours,
And cover them over with beautiful flowers.

* * * * * * * *

Cover the thousands who sleep far away—
Sleep where their friends can not find them to-day;
They who in mountain and hill-side and dell
Rest where they wearied, and lie where they fell.
Softly the grass-blade creeps round their repose;
Sweetly above them the wild flow'ret blows;
Zephyrs of freedom fly gently o'erhead,
Whispering names for the patriot dead.
So in our minds we will name them once more,
So in our hearts we will cover them o'er;
Roses and lilies and violets blue
Bloom in our souls for the brave and true.
Cover them over—yes, cover them over—
Parent, and husband, and brother, and lover:
Think of those far-away heroes of ours,
And cover them over with beautiful flowers.

When the long years have crept slowly away,
E'en to the dawn of Earth's funeral day;
When, at the Archangel's trumpet and tread,
Rise up the faces and forms of the dead;
When the great world its last judgment awaits;
When the blue sky shall swing open its gates,
And our long columns march silently through,
Past the Great Captain, for final review;
Then for the blood that has flown for the right,
Crowns shall be given, untarnished and bright;
Then the glad ear of each war-martyred son
Proudly shall hear the good judgment, "Well done."
Blessings for garlands shall cover them over—
Parent, and husband, and brother, and lover:
God will reward those dead heroes of ours,
And cover them over with beautiful flowers.

THIRTY-TWO PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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118 W. Jackson Blvd., CHICAGO, ILL.

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BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

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Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. **"Everybody's Paint Book,"** written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do **their own painting.** It gives practical lessons in plain painting, **varnishing, polishing, staining, paper hanging, kalsomining, etc.**

It also tells how to **renovate furniture** and gives many hints on artistic work for **decorating a home.** Precise directions are given for mixing paints for all purposes.

If farming tools and farm vehicles are kept painted, they will last twice as long, and anybody can do the work with the aid of this book. It is handsomely and substantially bound in cloth. A copy will be sent postage prepaid on receipt of price, **$1.00**

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For $1.60 we will send the above book and the Weekly American Bee Journal one year; or for $1.40 we will send the Paint book and a Standard-Bred Untested Italian Queen. Address

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Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and One-Piece Sections to draw from. **FREE**—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

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American Bee Journal

Hershiser Wax-Press

And Other LEWIS BEE-SUPPLIES

Good Goods and Prompt Shipment

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Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

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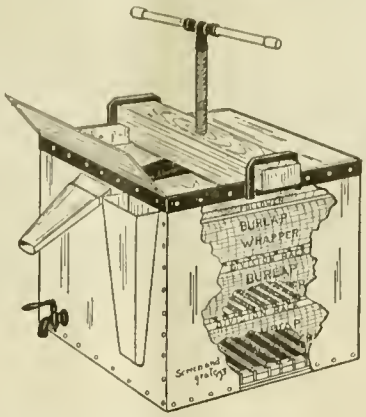
Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long Tongues and Goldens are best of honey-gatherers; 18 yrs. a specialty, breeding for best honey-gatherers. Untested, 75c, or $8 a doz.; Tested, $1, or $10 a doz.; Select Tested, $1.50, Breeders, very best, from $3 to $5. Carniolans same price. Try them. We also sell Nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed.

J. W. TAYLOR & SON
13A10t BEEVILLE, Bee Co., TEXAS.

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Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

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Catalog for either, with instructions to beginners—Free.

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Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, 75c; Tested, $1.00. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.
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The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.
Mention Bee Journal when writing.

For Sale 160 Acre Farm and 100 Colonies of Bees. Good outbuildings; good 8-room house—on Wisconsin river. Address, O. C. FITTS,
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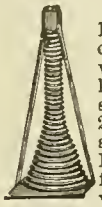
Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
- CHICAGO, ILL.

"If goods are wanted quick, send to Pouder." **Established 1889**

The Business End of the Bee

By the Bee-Crank

A genius has been defined as one with an infinite capacity for details. This puts the bee in the genius class. He goes after the first promising prospect, cleans that up and hunts up another. He doesn't spend his time waiting for a streak of luck. He just gathers the honey wherever he can find it.

Now, the bee-supply business is a good deal the same way. I believe one customer on the book is worth a flock in the open. I take care of him first, and do my prospecting afterwards if I have time. I treat him in such a way that he will come back without coaxing.

How I do it is another story. But it means an infinite attention to details for one thing, and the best way to get a taste of it is to send me your next order, and let me show you.

BEESWAX—I pay 33 cents in trade. Will ship any Supplies you may need in exchange for your wax. Send by freight or express according to size of package, and put your name upon it.

My new Catalog—Have you seen it? It's free. Send a postal for it to-day.

Arthur, Ill., May 9, 1907.

Walter S. Pouder, Indianapolis.

Dear Sir:—Draft for beeswax arrived promptly; the amount was for more than I had expected.

Yours truly, ED COX.

Walter S. Pouder

513-515 Massachusetts Av., INDIANAPOLIS, IND.

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

THE HATCH WAX-PRESS

If you have been so unfortunate as to lose some of your bees the past winter, or even this spring, save the wax in the combs by the use of some good wax-press. If you look about you will probably find a lot of old combs in your neighborhood which you can get for a song. Wax is higher now than for many years and you should hurry it to market, for the present high prices will likely continue but a few weeks, at most. Our new Hatch Press has several valuable features, viz :

Durability.
Ease of operation.
Most thorough in its work.
Superior quality of product.
Low cost. Price is only $6.00.

WANTED

If you know of any one who has bees to sell this month, we can probably find a purchaser for the same—any number—5 to 100 colonies—provided we are given a brief, explicit description at once. Please state condition, hives, race, price, etc.

BEESWAX

We are paying at this date 31 cents cash or 33 cents in trade for pure, average beeswax, delivered at any of the following offices : Medina, Ohio ; Chicago, New York, Philadelphia, or Washington. A large number of our jobbing agents make the same prices. See list of dealers in American Bee Journal for May 2.

BEE-HIVE PAINT

We are distributing agents for the B. P. S. Paint. This is one of the best hive-paints to be found on the market. We have handled it for 10 years or more, and do not recall a complaint in all that time. Equally good for your house or any indoor or outdoor work. We ship the O. W. (Outside White) from any of our offices; and the colors from Medina, New York, and Chicago. Send for color cards, etc.

SPECIAL

For the next 10 days from date of this paper, to test the value of these columns, we offer a copy of the book, "How to Keep Bees," price, $1.10, for only 60 cents, postpaid. Furthermore, we will promptly refund the money to any dissatisfied purchaser, even after you have read the entire book. You must send your order for this to Medina, and mention the American Bee Journal of this date.

LESSONS IN BEE-KEEPING BY MAIL

There is now, and has been for years, a greater demand for experienced bee-help than there are men ready for these places. Each winter and spring we are obliged to disappoint many large apiarists by telling them we do not know where suitable help can be found, The demand has already begun for the present season. We have found that many who take our course in bee-culture by correspondence prefer to go into business for themselves, so we still need active young men who have a fair knowledge of the subject—men whom we know something about—who can be recommended for the places frequently offered. We, therefore, offer again a limited course in

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We shall designate this as Course No. 2. The lessons are identical with the lessons in Course No. 1. The time, however, is limited to one year from enrollment. The course may be easily completed in 3 to 4 months. The following is the

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VI. Building Up Colonies.
VII. The Honey-flow.
VIII. Swarming.
IX. Rendering Normal.
X. Preparing for Winter.
XI. Wintering.
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GEORGE W. YORK, Editor | CHICAGO, ILL., MAY 30, 1907 | Vol. XLVII—No. 22

The Alexander Weak-Colony Plan

Some have met failure in trying the method of strengthening weak colonies in spring by placing them over strong colonies, and excluder between; but others are so enthusiastic over their success that it may be worth while for those who have not succeeded to make further trial with perhaps some precaution added. It has been suggested that if greater care were used, even hybrids would be all right. None but a *very* strong colony should be used for the lower one, and if it be very much stirred up at the time the weak colony is placed over, it may proceed at once to massacre the intruders. So the work should be very quietly done, so that the bees be not aroused.

A. A. Ashley gives in Gleanings in Bee Culture a plan worth trying. He says:

"I tried it on 3 colonies, and it proved a success with me. I think the reason some fail is because they fuss with the strong colony till they get them too thoroughly roused up. I put on the excluder, then put screen wire over that, and I set the weak colony on; 24 hours later I lifted off the weak colony, and quickly and gently removed the screen, then very gently set the weak colony back, and I never had a bee killed. After 30 days I separated them, leaving the weak colony on the old stand, moving the strong one to one side. This gives the weak colony the most of the flying bees. I can't tell any difference in the strength of them."

A correspondent suggests a little different plan: Put over the strong colony a sheet of newspaper. At the central part punch a hole large enough for a bee to pass through. Put over this an excluder, and over this the weak colony. No matter how much the bees are stirred up, they will have plenty of time to quiet down before any considerable number can get through the paper. The hole is made in the paper, not to make a passage immediately for the bees, but to make a ready starting point for the bees to gnaw through. If this proves upon trial to work all right, it has the double advantage over the wire-cloth plan that it saves the trouble of removing the wire-cloth, and it also saves any possible danger of stirring up the bees at the time of removing the wire-cloth.

The season is so late, and the number of very weak colonies so unusually large that there are no doubt still many colonies that are mere nuclei, and there may be no small gain in trying the plan of Mr. E. W. Alexander.

Destroying Foul-Brood Spores

Samuel Simmins says this in the British Bee Journal:

"The conclusion I have arrived at is, that while a short period of heat at boiling point may fail to destroy the spores of foul brood, there is no reason whatever why a more protracted term at blood temperature should not bring about the end of their existence where further propagation is out of the question."

Dwarf Bees in Old Combs (?)

In Prak. Wegweiser it is reported that undersized workers appeared in a colony, and inspection showed combs with cells not a centimeter (about 2-5 inch) deep, because these combs had never been exchanged, and were now 10 years old. One wonders whether closer investigation might not have led to a different conclusion. Thousands of combs in this country can probably be found that are 10 years old and older, some of them 20 or 30 years old, and none of them are found with cells less than the usual depth. Indeed, a little thought ought to make one expect that bees would keep their brood-cells of norma depth unless such a thing were impossible. Cut away the walls of a cell, either in whole or in part, and the bees will build them again, so as to make the cell the proper depth; why should they not build them out to the proper depth if they are made too shallow by cocoons filling up the bottom? Exactly that is what they do. Measure a brood-comb from which its first set of brood has emerged, and it measures 7/8 of an inch. Take a comb that is old enough, and it measures a full inch. The septum has become 1/8 inch thick, and the mouth of the cell has been built out to correspond, leaving the cells just as deep as when first built.

Tearing Down Worker Foundation to Build Drone-Comb

Dadant's denial of this, except in case of imperfect foundation, calls forth this remark in Prak. Wegweiser:

"Many bee-keepers, who observe with open eyes, will shake the head incredulously at this assertion: noted leaders are not infallible."

It might not be a safe thing to assert that a thing never happened just because one has not seen it, but after hundreds of swarms or colonies had been given hives entirely filled with foundation, if not one of them had torn down any part of the foundation in order to fill its place with drone-comb, it would seem pretty safe to conclude that bees were not in the habit of thus tearing down. Certainly a great many in this country make a practise of giving full sheets of foundation; has any one had it torn down to be replaced with drone-comb?

Thickness of Hive-Walls

D. M. M. says in the British Bee Journal:

"Should the walls of a hive be thick or thin? Fifty years ago it was advised that wood one inch up to an inch and a half thick should be used. Gradually a change came, till now we rarely find factory-made hives with wood thicker than half an inch. I am not aware that bees have suffered in any way from the innovation."

In this country 7/8 is perhaps the universal thickness. If 1/2 inch does as well across the water, perhaps it might also answer here. Certainly there would be some advantage in

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the matter of cost, and in the matter of lightness.

Planting for Honey

This is a subject that has been discussed among bee-keepers for many years, the conclusion arrived at being that unless the plant grown for honey has other special values it will not pay to grow it. Touching this matter, Prof. A. J. Cook has this to say in Gleanings in Bee-Culture:

Another thing that we have determined once for all, is that it will not pay to plant exclusively for honey. Plants like clover and alfalfa, that will pay for other purposes than honey, will pay well. It may, and often will, pay well to furnish seed to a farmer who lives near our apiary, if he will grow alsike clover, alfalfa, or any other useful plant that has a double use in that it also furnishes honey; it will also pay well to secure the planting of valuable honey-trees along the highway, such as linden, tulip, acacia, catalpa, and eucalyptus, when they are among the best of trees for roadside adornment. It is wise to plant sweet clover, motherwort, and other good honey-plants in all waste places near the apiary. It is better to have such space occupied by plants that have value, and not grow weeds that are a sore disfigurement, and, besides, furnish seeds to scatter to become a nuisance to our neighbor as well. I once heard Mr. Harbison, the distinguished bee-keeper, say that he had planted the wild sage in waste places to great advantage in our State; but to grow any plant on valuable land that has no use other than the nectar it yields is a mistake. This has been demonstrated beyond question.

Miscellaneous News-Items

Quitting the Strenuous Life is the subject of an article in the Saturday Evening Post of May 25, written by that interesting author, Mr. Forrest Crissey. In it he recommends bee-keeping as a work to be taken up by those who have tired of the stress of life in the city and wish to get back to Nature and country life. He quotes largely from the experiences of those who have succeeded with bees, among them being Dr. C. C. Miller.

It may seem strange, but the article referred to was prepared about 2 years ago, and only now appears in print. This fact will account for some statements in it, among which is this one: "In March of this year there was organized, in Chicago, The Honey-Producers' League, which can scarcely fail greatly to extend the honey market." Most of our readers know that last year the League was discountinued, and its funds turned over to the National Bee-Keepers' Association, to be used as originally intended by the League. So its good intentions will be carried out.

Mr. Crissey has done bee-keepers a good service, in that he has placed before perhaps a million readers the fact that there is not, and never was, any such thing as manufactured comb honey; and also that honey is of such great value as a daily food.

We may say further that Mr. Crissey has been a reader of the American Bee Journal for several years, and takes great interest in the bees he keeps for experimental purposes.

Dr. Bigelow and the Agassiz Association.—The Daily Advocate, of Stamford, Conn., of recent date contains a lengthy account of the Agassiz Association and its new president, Dr. Edward F. Bigelow, who was elected at a meeting of the trustees of the Association in Pittsfield, Mass. Dr. Bigelow is greatly interested in bees as a nature study, so doubtless he will help to promote the general interest in them through the organization of which he is now the honored head.

Gleanings in Bee Culture gives this notice, which, though brief, covers the case very nicely:

Our esteemed friend, Prof. Edward F. Bigelow, has just been elected to the presidential chair of the Agassiz Association, a world-wide organization, having for its object the popularization of nature study and outdoor science. In connection with the election of Dr. Bigelow, it has been decided to erect a building for a permanent headquarters for the society, and in addition a museum, library, and a model school of nature study, all to be located in Stamford, Conn.

It ought to be stated that the Agassiz Association is not a combination of scientists, but, rather, a collection of people who are endeavoring to extend their knowledge of animated nature; and it rather aims to interest ordinary every-day people who wish to educate themselves along such lines. The work is particularly interesting to teachers.

We are certain of one thing, Dr. Bigelow will not neglect the study of bees in connection with the work he has undertaken, and an apiary will surely form a prominent part of any nature-study enterprise with which he has to do. For this reason, and the fact we are well acquainted with the Doctor personally, we wish the Association every success.

Those who may be interested in this kind of work, and who desire more information, should apply to Dr. Bigelow, Stamford, Conn., for all particulars.

We congratulate both the Agassiz Association and Dr. Bigelow. It is a great combination. And Pres. B. will now have a wider opportunity for his abounding enthusiasm along the line of nature study.

General Manager N. E. France (Platteville, Wis.), of the National Bee-Keepers' Association, writing us May 18, 1907, reported that there were 2346 members of the Association at that date. It would seem that it might be an easy matter to have a membership of 2500 by the time of the next meeting of the National. The exact time and place have not yet been decided, but doubtless will be very soon.

Mr. France had letters on his desk from the following States, which referred to the condition of the bees and weather:

California, where they were feeding the bees.

Texas, where they have had two extractings with a cold wave following.

Tennessee, with weather too cold for brood-rearing.

Louisiana, where the cold weather was still continuing.

It seems that reports indicate quite general cool weather over the country during the past few weeks.

Mr. France had been away from home for about 3 weeks in Wisconsin, and reports cold weather for the past 6 weeks, which injured Wisconsin bees as much as had all the past winter.

Mr. J. J. Shearer, of Plymouth, Mich., when renewing his subscription recently, wrote as follows:

I am now taking 52 papers and journals every month, but can't think of dropping the American Bee Journal. All of them are worth more than they cost. I am 75 years "young" to-day, and get time to look them all over. I would like to send you some subscribers if I could, but there are only 3 colonies of bees within 4 miles of me.

J. J. Shearer.

Mr. Shearer certainly takes his share of current literature. He was one of the "young fellows" who made up the carload of bee-keepers that went to the Los Angeles convention in 1903. Dr. Miller was another. So was A. I. Root. They will probably never forget that memorable trip, nor will 25 or 30 others who were permitted to enjoy it.

Worst Outlook for Bees.—Mr. C. P. Dadant, of Hamilton, Ill., wrote us on May 21st as follows:

Friend York:—The outlook is the very worst for bees that I have seen in 40 years. There is no white clover here, and we can not see anything to help them out, unless we have an exceedingly wet year.

C. P. Dadant.

Surely, the above seems discouraging, but let us all hope that the season may yet be all right for the bees.

The Sixth Annual Report of the Illinois State Bee-Keepers' Association has just been issued, containing 176 pages. Its contents, besides considerable miscellaneous matter, are the 1906 reports of the Illinois State Bee-Keepers' Association, the National, and the Chicago-Northwestern. There are a number of very fine engravings of apiaries, the Illinois State Capitol, etc. Cloth-bound copies were issued for the members of the Association only, and will be sent out as long as they last to any who become members on the payment of $1.00 to the Secretary, which not only secures a cloth-bound copy, but membership in the State Association one year, and the same in the National Association. A paper-covered copy of the Report will be mailed to any one who sends 15 cents to the Secretary to pay postage and wrapping. We think the Sixth Annual Report is as attractive and instructive as any we have ever issued. General Manager N. E. France says concerning this Report: "It is a credit to all concerned in getting it out."

Jas. A. Stone, *Sec.*

Route 4, Springfield, Ill.

American Bee Journal

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister's Experience With Bees

MY DEAR MISS WILSON:—About 10 years ago a friend gave me a swarm of bees in a box-hive, and told me this was too poor a honey-producing region to make bee-keeping profitable, but that I could hive the swarms that came off each year, and in the fall kill off the old colonies and use their honey.

For the first 2 or 3 years I paid little attention to the bees. If we chanced to be about when they swarmed we put them in a box, but got little honey, as I could not make up my mind to kill them. Finally I was persuaded to get a frame hive, and the way we *mis*managed the swarm that we put into it would take too long to tell. All the family, and some of the neighbors, assisted; and the stings we got! I was stung on the face and head, and in about an hour my eyes were closed, and for a day or so I could not see, and was very sick. The "other half" wanted to shoot the bees, and not have one on the place, but for my part I rather admired them for resenting our treatment, and next year I got 5 hives, and that season I sold $9 worth of section honey, at 20 cents a section. The bees in the boxes (except the old one) died. I now have the old box and 25 colonies in frame hives, though I have lost quite a number some winters.

Most of the hives are under an open shed, and part of them out in the open, and only one colony died last winter. Some seasons there is too much rain, and they store very little honey, while in others they store a good crop.

Some years I have sold $35 worth of section honey at 15 cents. I take it to our little town and peddle it out among my neighbors. Often I could ask 25 cents, but believe it better to take less and have a steady cash custom.

Last year I put a new swarm into a hive where the bees had died during the preceding winter, and in about 4 weeks they had filled the 24 sections (also the body).

As the stings poison me so I do not handle my bees as they should be handled for profit; that is, I could divide and double up colonies, and do much more with them according to the bee-books.

I do not know what kind of bees they are, but unless abused they are easy to work with. Often, when I am working with them, I get interested and handle them quite freely, and am not nervous with them at any time, yet I think it best to wear a veil and be on the safe side. A number of times, when trying to saw off a limb high up in a tree, I have had the swarm fall on my head, and down to the ground in a shower, but they would at once go back to the limb, and never seem to know I was there.

The bother about swarming time is, there are so many trees, and tall ones, too, in which the bees cluster. I find that if they seem inclined to go too high or not settle, a shower with the spray-pump settles them—just a mist so they think it is raining. Sometimes I put on a trap when I think a swarm will be coming out, and that way I have less trouble; but as I am quite hard of hearing (not deaf, but unable to hear low sounds), I can not hear the queen, nor have I ever been able to see her, though I often have looked for her so I could put her into the hive, as sometimes a swarm seems so contrary about going in, though maybe the next swarm that I have will go into the same hive at once.

Two years ago I was alone when a swarm issued and clustered high up in a young oak-tree. I could get to them all right by using a long ladder, but I could not bring down the swarm—it was so very large. I disliked asking a neighbor to help me, so this is how I managed:

After cutting away all brush below the cluster, I carried a small rope up and put it over a crotch above the bees, then tied it to the limb holding the swarm. Then I went down and fastened the other end of the rope; went up the tree and sawed the limb off, and descended and lowered the cluster till it almost touched the table holding the hive. As they made no move toward going in, I gently brushed them down on the cloth, and in 15 minutes there was no sign of a bee out of the hive, but they scampered in at once.

It amuses me to read about the possibility of sisters handling bees, doing the rough or heavy work, with the exception of moving the hive when full of comb, etc. I have done everything required myself, when no one is here to help. When I tell you I am in my 56th year, you will agree with me that climbing trees and all that is no easy work, but a great many times I do it.

Taking off the supers used to be the hardest for me, as I almost always got stung, but I got a bee-escape, which every bee-keeper should use. I put it in a board as directed, but when it was put under the super I found that the honey was so heavy it had sagged in the center, and that left a space around the edge where the bees went back and forth; and, besides, I did not like so much handling the bees, so I set my wits to work and this is the result:

Make a box 8 inches deep, of proper inside measure to set a super into. On the inside, half way down, fasten the board in which is the escape. Early in the morning—it is cool then and the bees are more quiet, I find—set the prepared box near the hive. Have ready another super with a cover on. Take off the super full of honey, and set it inside the prepared box; put on the other super, and there you are. If you have some one to help it is easier, but I do not mind in the least doing the job alone—and you can have your honey for dinner. Of course, you understand that the ends of the box below the escape are to be open to allow the bees to get out, and there is to be a cleat on the upper side of the board so as not to crush the bees.

Another improvement, in my opinion, would be to have the metal strips holding section-holders wide enough to be seen at the outside of the hive. A number of times when they are glued down tight, I have run the knife *above* the tin strip and lifted the super-frame off empty.

The bees are now working well. I looked in a few times this morning and they are filling sections. Some are almost full, but I do not like to take off too soon.

Regarding light and dark honey, a good many prefer the dark, saying it has a better flavor than the white. I can not eat honey myself, as it makes me sick. I try it once in a while, though, and now and then, if it is *old* and dark, it does not hurt me.

MRS. GERTRUDE L. GOODWIN.

Roy, Wash., May 1.

As a help against having swarms settle in high trees, you might try a plan that some have reported as successful. Take 4 poles 6 feet long, or longer, tie them together near the top, and then set up the 4 wigwam fashion, with a small bundle of branches with leaves upon them fastened at the top, and also a piece of old comb. Of course, the leaves will wither, but that may be all the better.

If one swarm settles on it, others will be more likely to settle in the same place.

No matter how sharp your hearing, you would not hear a queen in a swarm. When flying she makes no noise different from other bees.

Always glad to hear from you.

Management for Extracted Honey—"Catty" Molasses vs. Foul-Broody Honey

If I should run my bees for extracted honey till they have the benefit of the honey-flow, which ends about July 15, I think, up to this time I would start nuclei, having each on top of a hive with a laying-queen, with wire-cloth under it to keep the bees from going down and carrying up honey from the lower ones, and to give them the same scent. At the end of the flow I will set the old colony off by itself, put the nucleus down to receive the flying bees, with an excluder over them, and the honey over them to finish ripening. What would be your opinion of the results?

When I was a girl I lived with the family of a man who made sorghum molasses for the

American Bee Journal

public. He always had lots of molasses to sell. Being short of barrels he filled one ¾ full which had no head in one end, and left it in an outhouse with a cloth over it to keep out the dirt. A cat jumped out of the loft down on the cover and settled down in the molasses till only its head was above the surface. He pulled it out and washed it off, and said, "We will use from another barrel and sell the one the cat was in," and forbade my saying anything about it. Knowing the penalty, I obeyed. How would "cat molasses" do to compare with foul-broody honey on the table of the foul-broody honey-man, and he knowing the condition?

MRS. LAURA E. RUDY.

Fairmount, Ill., April 7.

I think your plan will work all right provided your season is long enough for the new colonies to build up for winter with plenty of stores. It may be necessary for you to feed in order that the bees have enough. You did not mention it, but, of course, you give your nuclei an outside entrance so they can fly.

Another thing you will need to look after, that is, to give your colonies plenty of room to store during the harvest, or they will surely swarm. It will be a great help in preventing swarming if you give plenty of ventilation also. Just slide each upper story forward, leaving a space large enough so bees can pass through; that will give a good circulation of air, which aids a good deal in the prevention of swarming.

If obliged to eat either, I would prefer the foul-broody honey to "catty" molasses. Surplus honey stored by foul-broody colonies is entirely wholesome for the human stomach, but I must say *I* prefer not to eat it.

BY W. A. PRYAL, Alden Station, Oakland, Calif.

Indigo Plant

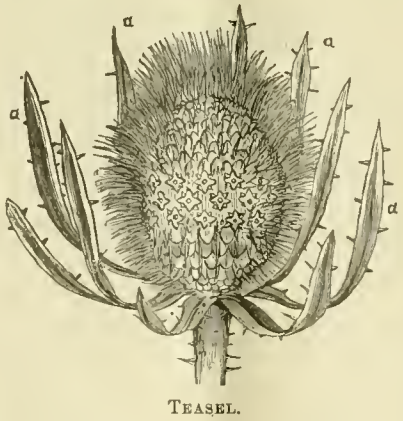
I never knew this was a honey-producer until I saw the bees working upon its blooms in early April at the University of California. In fact, it was not the true indigo-tree that I saw, but the species known as *Indigofera Australis*—a plant bearing rather showy red flowers in early April. It is a native of Australia, and seems to be a good bee-plant. I judge that the true indigo plants, *I. anil* and *I. tinctoria*, yield honey. Plants of each were introduced into the Southern States a century and a half ago.

The Acacias

This is a flower that I have long recognized as being of benefit to the bees, at least for pollen during the latter part of winter and during spring. I notice that Prof. Cook writes (page 355) in praise of these trees. I endorse what he states in commendation of the tree, but I do not think it is of much value as a nectar-secreting flower. The tree is grown in greater numbers in this portion of California than it is in any other portion of the State that I ever visited. This reminds me that some 10 years ago, when some bee-keepers from the southern counties of the State visited me, they complimented me upon the beautiful appearance of our orange-trees; they were nicer looking trees than they had in the south. I did not understand at first, and so stated. They pointed to some stately specimens of *Acacia latifolia*. There was some resemblance on casual observation — otherwise there was none. Of these trees I may make mention later, and use some photographs I have made of them during the past couple of years.

The Teasel

Some teasels found their way into our garden several years ago and became quite a curiosity, for this plant is a rarity in this portion of California. The women-folk at our home soon appropriated the tops with a long stem attached for ornamental and decorative purposes. Even their friends would carry away some of these "ornaments." The plants became interesting to me, as I found bees always working on the peculiar flowers. From a small beginning the plants have become quite numerous on our place; in fact, we have to hoe out many of them each year. They grow very freely from self-sown seed, and are perfectly hardy. I had been thinking of saving the seed and scattering it by the roadsides and through the hills whenever I should chance to stroll off for a walk. But I have been a little wary about doing so, as I find that the "A B C of Bee Culture" has dropped the article on this plant from the last edition of that work.



TEASEL.

Prof. Cook, in his "Guide," speaks well of the plant as a honey-producer. G. M. Doolittle praises it very highly in one of the early volumes of Gleanings in Bee Culture. Why it has been dropped from an encyclopœdia on bees and honey I do not pretend to know, unless the compiler was convinced that it was of insufficient importance as a honey-secreting plant. If this were so, the caption should have been retained and a few lines made to follow, stating that the plant is no longer worthy of the consideration of bee-keepers. As a honey-plant I believe it is all right; I should be afraid, though, that it might become a troublesome weed. Who in this State knows all about its honey-value? The spinous fruit-heads are no longer of value in the preparation of woolen cloth, as machinery has taken its place, so Prof. Cook says.

Judas-Tree and Red-Bud

I never knew how pretty a sight this tree could make until I saw a couple of good-sized specimens in bloom the first week in April. Though not the most showy, *Cercis siliquastrum* seems to be the most thrifty and a profuse bloomer. Its nodding pink pea-shaped flowers are as attractive to humans on account of their prettiness as they are to the bees on account of the nectar they contain. The flowers appear before the leaves, and this adds to the plant's attractiveness. This variety is called "Judas-Tree," and is a native of Southern Europe and Western Asia.

C. occidentalis. also called *C. Californica* (red-bud), is found in a wild state in the Sierra Nevada Mountains in the Golden State. Every garden should contain at least a specimen each of these trees.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

American Bee Journal

Bees as Blossom Fertilizers

BY C. P. DADANT

Since the publication in the American Bee Journal of my articles concerning spraying of fruit-blossoms, and the usefulness of the bees in the fertilization of flowers, I have had letters from a number of bee-keepers and fruit-growers. The sentiment is now very clearly on all sides in favor of waiting to spray until the bloom his disappeared. Even one of the dealers in sprayers, who, until lately has recommended to spray trees during bloom, has changed his advice to "spraying when the bloom is beginning to drop." The very strong assertion made by Senator Dunlap, that "no intelligent horticulturist will hereafter spray during bloom" is bearing its fruits and helping our cause.

Allow me to add another testimony to that already gathered on this subject. W. T. Cary, of Wakenda, Mo., requested one of his bee-friends to inform me of his experience with bloom spraying, and I received the following terse letter which is the more weighty for its conciseness:

CHILLICOTHE, MO., March 23, 1907.
MR. C. P. DADANT:—There is a man in the neighborhood who sprayed his apple-trees in full bloom: consequently he destroyed his apple crop and killed a great many of my bees.
Yours truly, G. W. BABB.

However, it is necessary to state that spraying must not be long delayed after the bloom, in the case of the apple, for the destruction of the codling-moth, and we find in Bulletin No. 114, of the Agricultural Experiment Station of the University of Illinois, the following remark:

"Taking into consideration the variation in the different clusters on the same tree, and the fact that the calyx cavities can be more readily reached by the spray if the calyx is entirely open, rather than partially closed, it is probable that the entire orchard should be sprayed within 7 days from the time that most petals have fallen."

They add that in a mixed orchard spraying may be commenced upon the earlier blossoming varieties before the others are ready.

But I did not sit at my desk to talk spraying; what I meant to do was to give another evidence of the usefulness of the honey-bee in bloom fertilization.

I have an orchard of 2 acres, one-third in Kieffer pears, the other two-thirds in Duchess. Every orchardist knows that the Kieffer pear is a very bad self-fertilizer, and that it is necessary to have other trees among the Kieffers to help fertilize the bloom. Nurserymen usually recommend the Garber pear for this purpose. It is very similar to the Kieffer, and a very strong grower—in most respects a pear like the Kieffer. In our case, the Duchess being only a short distance away, has always proven sufficient to help the Kieffers out, and our crops have been large, even too large for the good of the trees.

This spring the trees opened into bloom at the beginning of the cold April weather, and remained in bloom for nearly 2 weeks with hardly an hour of sunshine sufficient for the bees to work on the blossom. The result is, that even with the best fertilizers the Duchess trees have less than a third of the fruit on that they usually have. But the Kieffers, which have been left to their own resources for pollen-fertilization, have only a fruit here and there, evidently produced in the very short time during which the bees came to them. A neighbor who has none other than the Kieffer in one orchard, has not a single fruit on the trees. The other varieties of pears were evidently too far away for any bees to visit both in the exceedingly short time allowed them by the weather.

It has been stated, time and again, that there are varieties of strawberries which require the agency of insects for fertilization, as they are deprived of stamens and must be fertilized by the pollen of other varieties; but very few people have stopped to think that when any tree or plant which has been domesticated becomes an ineffectual self-fertilizer, the bees are imperatively needed to help them out.

The honey-bee has been accused of carrying the blight from one tree to another among the pear trees, as if there was no other method by which the fungus of this disease could be carried from tree to tree in an orchard. The same people who are so prompt to call the bee to account for imaginary damages, fail to bear in mind that in many cases they would have no fruit at all were it not for the pollen-bearers, which, unconsciously, do the work that no other agency could do as well as they.

So we may rejoice in the little honey-bee, for the more we investigate the better we see its usefulness in more ways than one.

Hamilton, Ill.

Clipping Queens' Wings, Etc.

BY PROF. A. J. COOK

I am requested to give the reasons, pro and con, for clipping the wings of the queen-bee. I am glad to do this, as it is to my mind a well-established fact that it is always advisable to do this, and in some cases it is a tremendous advantage. We know of a certainty that the bees will never swarm and go off unless the queen goes with them. They may come forth from the hive, and often will do so, and will also often cluster with no queen following them, but unless the queen joins the bees they will in all and every case go back and not go off to start a new home. Of course, it would not do them any good to go forth without a queen, as with no queen and no eggs to rear one they would soon dwindle away and come to nothing. The purpose of the clipping, then, is obvious. We may lose our queen, as she may wander out and fail to return to the hive and be lost, but the colony can not be lost, at least not till a new queen is reared in the old colony.

In case a farmer keeps bees, and does not wish to remain about the apiary all day at the swarming season, he can have his wife or some child keep watch, and as the bees swarm out the watcher marks the hive and catches and cages the queen, which is easily and quickly done, and as the farmer comes to the house at noontide or later, he can divide the colony or proceed as his plan dictates, and so arrange for the safety of his bees with no loss, and in the cheapest way possible.

My brother has kept bees for years, and with marked success, and at the same time runs a stock and berry farm. He told me last summer, as he has often told me before, that he finds his bees by no means the least profitable part of his ranch or farm, and he would be slow to part with them. He manages the swarming as just suggested. He would not feel that he could give time to remain with the bees, and he would be even more slow to have his wife bothered with the hiving, but she makes no objection at all to watching and caging the queens, and so the whole matter of swarming is easily and cheaply managed.

I have never heard but three objections urged to the practise of clipping queens. The first is that it injures the queens, and so is unwise. I do not believe that it is an injury to the queen at all. I have practised this plan for years, and so far as I could see the clipped queens were no whit behind the others in performance. Indeed, the ants do this very thing themselves; that is, the worker ants bite off the wings of the queens, and surely the queen-ants seem to lose no potency or virility by this pruning. No, the queens are not made any the less prolific, and are in every way as good.

It has also been claimed that the bees are more likely to supersede the queen if her wings were clipped. Long experience and close observation make me very sure that this is not true. The third point urged is that it somewhat injures the appearance of the queen. This may be so, but as we see the queen so seldom I should hardly think that this could be urged very seriously.

How to Clip.

Some claim to be nimble enough to clip the queen as she walks on the comb. I could never succeed this way. I catch the queen by the wings with my right hand, then grasp her by the

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thorax gently with the left hand, and, with delicate scissors held in the right, I clip the right front wing about one-half distance from the tip. Some claim to keep the age of the queen by clipping one-half of the other right wing the second year, the left front one the third year, and the last one the fourth year. This may be done if desired, but I do not think it will usually be any signal advantage.

I always clip my young queens as soon as I am sure that they are laying. I must see eggs in the cells before I clip, as in case we clip before the queen has met the drone we ruin her, as they fly forth to mate; and in case the queen has been clipped she can not fly forth, and so will always be a drone-layer; hence of no use at all.

Bees and Pollination.

Our fruit-men are coming more and more to recognize the importance of bees in cross-pollinating the fruit. They are generally recognizing—at least the best informed fruit-growers—that unless we have warm days during fruit-bloom the crop will usually set only a partial crop. I have just had a trip among the big fruit-men of the Sacramento Valley, and was pleased to find that they very generally consent to the view that good weather is very desirable during the blooming season. Many are sure that there must be bees to visit the bloom or the crop in many cases will be light. As our fruit-men become better informed, there will be much less complaint regarding the injury of fruit by bees, but much more contention that the bees are necessary to full crops. One of the most intelligent and prosperous fruit-growers that I know in California, makes it a point to induce a large bee-keeper to keep his bees in his orchard. As there are large alfalfa fields close by, and as the orchardist has a large planting of all kinds of deciduous fruits, they find this plan mutually beneficial.

Pear-Blight and Bees.

I find also that the bees are not coming in for so much complaint from the pear-growers. Indeed it is found as I predicted it would be, that there are always enough insects to scatter the pear-blight, and would be even were there no bees at all. It is found that by extreme thoroughness and vigilance the blight can be held in control. It is also demonstrated that unless the utmost caution is practised the blight will conquer. It is a case where it pays well to be vigilant and tremendously energetic, for pears are a very profitable fruit, and will become more and more so, as so many will not go to the fight with sleeves rolled up.

It seems more than likely that those who fight to the knife will be amply rewarded. Had I a fine orchard I would go at this enemy full tilt, and would win, and would reap a splendid reward. I would do one thing more: I would get all my neighbors to fight with me, as all must fight to bring the full success. In case some would not fight it would be well, if one could do so, to rent the trees of such an one, as trees not watched and pruned become a center of infection of all surrounding trees, and so with each blossoming season the inoculating germs are sown broadcast.

It is splendid that our scientists have discovered that this malady is controllable, but it is unfortunate that the cure is so expensive, and also that the cure must be universally applied or it will be unsatisfactory. It seems that the disease is spread through the propolis or gum as readily as through the nectar.

Claremont, Calif.

Shallow Hives and Short Cuts in Bee-Keeping

BY J. E. CHAMBERS.

On page 304 I see an article by Dr. Bohrer, entitled, "The Construction and Manipulation of Hives." In this article the good Doctor falls into the common error of supposing that the shallow hive means necessarily a shallow brood-chamber. In this connection I wish to say that I do not here desire to offer any argument against the claim he advances, that bees winter-kill more in shallow hives than they do in deep ones. This kind of stuff has been refuted too often to need any notice here; besides, while I do not live in quite as cold a climate as Dr. Bohrer, we do have some quite cold weather here, and I have known bees to become frost-bound and perish in deep hives, but never in shallow ones.

But Dr. Bohrer's hole bored through the center of the combs to enable the bees to pass from side to side is the explanation of the whole thing. This very movement is secured by the space through the center, and between the top and bottom bars of the divisible hive.

But the main points on which the venerable Doctor is wrong, according to my experience, which covers a period of some 15 years' use of shallow hives, is where he says that he does not see how we find the queen-cells. Why, bless your soul, Doctor, that is the easiest, the quickest, and the surest of all the manipulations capable of being performed with the shallow hive. With my hive the frames are clamped together by a knob that yields to pressure, and when examining for cells I can divide the hive through the center and tilt the upper case on end, allowing it to rest on the upper part of the bottom chamber, and with thumb and forefinger turn the combs apart an inch or two, and see every square inch of comb-surface in the hive, and without removing even one comb.

Regarding the finding of queens, I will say that I have lately been much pleased with a few words contained in an article by Mr. Alexander, which lately appeared in Gleanings, in which he says that the young honey-producers of the future can not long remain in the ruts that we older men have made, but must with renewed perseverance push forward until they have made great improvement in the methods now in use. I fully indorse all this and go still further, that the everlasting hunting of queens and continual tearing up of the brood-nest is the prolific cause of more harm than is any other one thing. A man who can not tell the condition of a queen by the work she is doing, has, to say the least, missed his calling, and is struggling in one of Alexander's ruts.

Another splendid thing I heard at the San Antonio convention was contained in the paper of Mr. Townsend, where he said, Don't do the things with the bees that they can do just as well as you can; and don't handle brood-frames. These few words were worth the cost of the trip to me, and compensated for the other disappointing features of that noted convention; not that it was new to me, but there is always to the mind of a dullard, like myself, at least some satisfaction in knowing that he is in good company in some of his beliefs. I have just mentioned these things in order to illustrate how I have been for years trying to cut out every unnecessary manipulation.

I keep good stock, and as long as a queen keeps her colony strong she is in every way satisfactory to me. When one fails I immediately know it by the decreasing strength of the colony, and at once slip one of my requeening boards between the upper and lower section of the brood-chamber, and without removing the old queen introduce a young one at one and the same operation.

In this connection I may mention that I requeen all colonies that make preparations to swarm by the use of my non-swarming board. This makes it unnecessary to watch those bees that have young queens. However, I will say for Dr. Bohrer's information, that I find queens whenever by chance I need to do so by the use of a simple mechanical device which I call a queen-trap. You are aware of the fact that a queen when trying to escape from the fumes of smoke will run into any crack or crevice. This device consists of a thin board with 4 transverse openings in it, arranged so as to allow the bees a free passage through by means of escapes of wire, but when it is in operation the queen, after passing through with the rest of the bees, is caught and automatically caged, so the apiarist can give her attention when and how he pleases. The whole operation takes but a minute or two.

These are but a few of the ways and short cuts by which I manage to do the things easily that others complain so much of. I do not write much for publication or otherwise court notoriety, but I am following the course mentioned by Mr. Alexander; that is, trying to find out improved methods, and in a way at least I have succeeded. In many things I am not orthodox, but I always did hate that word; it means to me the throttling of individuality and the strangling of every higher aspiration. I don't intend to follow in the same ruts that others do, even though my way is not so good as theirs. In my methods I have shortened the time required to enable me to accomplish most of the manipulations necessary in the managing of my business, and that suits me exactly, though it may not give the same measure of satisfaction to others.

Vigo, Tex.

[We would be pleased to have Mr.

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Chambers describe more fully his requeening and non-swarming boards, and their use. Perhaps he has some pictures of them that could be used to make everything plainer.—EDITOR.]

The American Bee-Keepers Criticised, With Side-Lights of German Bee-Keeping

BY F. GREINER

Dr. Bruennich, of Zurich, accuses the American bee-keeper (in Leips. Bztg.) of esteeming no one higher than himself; that he regards himself smarter, as we often say, than the bee-keeper of any other country; that he is a long ways ahead of all, and that all nations have a reason to look up to him. In the line of practical results the Doctor may make some concessions, but he says bee-keeping on the large American scale is an absolute impossibility in Europe. In the line of breeding we have not even learned the a b c. In breeding fowls he thinks we have made achievements, but in breeding bees we can show nothing. As a characteristic proof he cites from Gleanings: The $200 red clover queen that did not reproduce herself in her daughter—nay, that she did not produce even one daughter her equal; and that Root is now willing to give $500 for a queen as good as the one spoken about. Dr. Bruennich holds that this lack of stableness has no other cause than our crazy passion for new races of bees, and the constant crossing which has resulted in a cross without any fixedness. He censures us for importing all sorts of bees—Italians, Carniolans, Punics, Cyprians, and now the Caucasians—and possibly some other races that Prof. Benton may have hunted out on his trip around the world. We dream of the ideal bee, but are very far from it. A similar craze was raging in Europe some years ago, he says, but they have freed themselves from it, and they have found that by keeping a race pure they can attain that stableness desired, which makes their "Switzer Bee" reproduce itself. The purer their bees the surer they transmit their qualities to their offspring; we know that particularly in breeding bees it is a most dangerous sport to keep crossing our bees, mixing in new blood. Just as long as the bee-keeping masses are not enlightened by their press, so long there will be no stable American bee, but simply hybrids. The Doctor is apparently pretty well posted, for he says: The black bee is constantly being run down, although such a bee in its pureness does not exist any more in America.

How nearly right Dr. B. is in his analysis and criticism I can not say, but it may do us good to see ourselves once as others see us. If the Americans have been guilty of looking down upon their European brothers in the past, it is my impression the Americans have been treated similarly by the Europeans. It, however, seems to me that of late years we have become better acquainted with each other, and that superior feeling is fast giving away to esteem. Conditions are so totally different on the different continents that it is difficult for one to set himself up as a judge. If the reader will bear with me I will give him an example of a practise that would perhaps not appeal to him as one to follow in America, and yet in Europe it is all right:

Generally speaking, bee-keeping is not carried on in Germany as a profession as is the case in America; still in certain parts of Germany it is. The "heath bee-keepers" have a great reputation. Their hives are straw-skeps; their heath-bee is much like the Carniolan bee, inasmuch as they are great on swarming. The swarms are all hived, and the heavy colonies are brimstoned in the fall, also driven, and the bees sold. There exists a regular trade in these bees in the fall, many less fortunate bee-keepers purchasing them to strengthen their weak colonies. The hives full of comb and honey are an article of commerce. Some of these bee-keepers go to a large city like Hamburg, Berlin, Bremen, etc., and take a hundred or more of the beeless hives with them. They rent a little room in an out-of-the-way corner of the city, where they do their work. Evenings the combs are cut out of the hives and assorted in trays.

During the day they peddle the honey on the street; they are neatly dressed, white apron and cap, carrying the honey in a neat, clean, wooden tray with nickel trimmings. It can not be denied that such honey, presented in this fashion, attracts, often more than our beautiful honey in sections. It is certainly much cheaper to produce such honey than such as we produce, and still it brings twice as much as we are realizing. There are no complicated honey-cases or supers with cleated separators, no sections to buy; no work with frame hives, wiring frames, buying comb foundation, etc. When the honey is cut out of the straw-skeps the empty shells are shipped back home and are ready again to accept new swarms. It is a simple method, with few expenses. What American, up-to-date comb-honey producer would want to advise these men to adopt American hives and American methods as long as the dear public is willing to pay good prices for these honeys of the Lueneburg-heath bee-keeper?

Some of us may have looked down upon these bee-keepers who have practised such methods for many, many years, and do not seem to advance. But when we look into the matter we will find redeeming features even in such bee-keeping, and we will also find many a "bee-master" in the ranks of these men.

Naples, N. Y.

Report of the 37th Annual Convention of the National Bee-Keepers' Association, held in San Antonio, Tex., Nov. 8-10, '06

(Continued from page 436.)

GETTING A LARGER CONVENTION ATTENDANCE.

"While endeavoring to increase the membership to the National Bee-Keepers' Association, would it not be well to try to touch the tariff on passenger transportation, whereby more members might be enabled to attend the National Bee-Keepers' Convention, and see new flowers bloom, bees' tongues grow longer, and, indeed, see honey grow sweeter? I believe such a move would bring many into the National, who to-day are non-members."

Mr. Holekamp—A cheaper rate can easily be obtained if there are enough bee-keepers attending a meeting.

Mr. Kimmey—You can always obtain a special rate by going before the proper authorities, and by getting 100 members.

Mr. Anderson—Now, then, right there is the point. Some of us can not even get a return ticket, while some got great reductions. I believe this thing should be taken up in the proper way, and we will all be treated right. There are a great many sorrowful-looking faces back our way, just simply because the railroad companies said they knew nothing about our convention. Some of them got so disgusted that they thought that if the Association would not look out for us so as to get rates, we were not wanted, and we will drop out; but if you swell a fellow's pocket a little, and they see they are going to get a reduced rate, it will be an inducement to bring them in.

Mr. Kimmey—I move that the General Manager be instructed to make arrangements with the different Passenger Associations for reduced rates to and from all annual meetings hereafter.

Dr. Bohrer—I second the motion.

The motion as put was unanimously carried.

Mr. France—I have tried to secure these rates so far as my influence would go. I believe that the rates from the different places should be considered. What rate can we secure if we go there, and it is almost depends upon the rate. Now we would not have met in St.

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Louis two years ago if it had not been for the World's Fair and the cheap rates; and then we promised to come here last year, and the railroads granted a special rate, but the yellow fever broke out. Then the question was, Where can we go? and the nearest to it was the Chicago International Live Stock Show, in December; then we came here this year. I have been trying to do what I could for you in that line.

Mr. Stone—I would ask Mr. France if these rates can not be gotten every two weeks. We can secure these rates the first and third Tuesdays every month, just as we did this time.

Mr. France—Yes, sir; there was a definite promise in favor of Texas, and they had been put off, and were getting tired of that.

Mr. Anderson—I was angry about this, but I came on, anyhow, and I was going to find out if other bee-keepers were treated the same way. The first thing I went into the Santa Fe office and asked if there were any reduced rates to Texas, and the agent said he did not know of any just now. He said, "What part of Texas do you want to go to?" and I said, "San Antonio." He looked at his book and said, "Beginning on the 4th the National Bee-Keepers' Association is there, and I will give you the single round-trip plus 50 cents, good until the 15th." Now, see, the National Bee-Keepers' Association had something to do with it there. I believe that Mr. France has done all that he could; but let's better it.

Mr. Holekamp—There is a blank on which these people can secure rates. If we have enough to go, there is no trouble about securing rates.

Pres. Dadant—I think I can throw a little light upon this. I received several letters from railroad companies. All the meetings of the associations are announced in a special sheet published specially to give notice of all the association meetings in the United States. Ours was published in that sheet, and I received two letters from them; all they wanted were the delegates' names. I have tried this in getting rates. Rates are promised if you have 100 delegates; if you have 99 you can not get them. So you see the railroads do know something about us. The superintendent wrote to me asking the names of our members, but they wanted a large crowd to go; they are not giving these rates out of kindness, it is simply to make money. If you can assure them a profit they will give us rates; otherwise they will not.

Pres. Dadant—There are two papers which have not been received, one by Mr. R. F. Holtermann, of Ontario, Canada, on "The Difference Between Ripening and Evaporating Nectar;" and one by Mr. C. A. Hatch, of Wisconsin, who says he would prefer to re-prepare his paper and then send it in for publication, if admissible. Now, if there is no objection we will insert them in the published report. Under those conditions I think we are through with the business. I have been asked to state that the Bee-Disease Inspectors meet hers on Monday, and I hope that every member will attend. Dr. Phillips and Dr. White will both be present.

Mr. France—Some have asked me if there will be anything except lectures in regard to diseases. Yes, there will be demonstrations and samples of foul brood. It is important that you stay.

Dr. Phillips—I wish to say that the inspectors have been meeting together, and have been studying up on these matters. It therefore behooves the inspectors to get together and learn all they can. For that reason, Mr. France, Mr. Hutchinson, and myself, met in Milwaukee to talk over this subject, and we decided to call a meeting of all the inspectors we could reach, and the place we finally decided upon was San Antonio. We are going to have quite a number of inspectors here, and the main thing is, the proceedings will be published, and the papers that are read will be available for the persons that are unable to attend. Dr. White, who has done the best work, will be here Monday for the meeting, prepared to give a demonstration of the work that has been done. My part will be that of reviewing or pointing out where mistakes have been made. I have in my possession papers from two or three inspectors. I will also have present copies of the Foul Brood Laws of the United States and the members will inspect them and pass resolutions; and many things will come up for discussion.

Pres. Dadant—The Secretary says there are two questions left. We will hear them.

American Breeders' Association.

"Should not the National Bee-Keepers' Association become a member of the American Breeders' Association?"

Dr. Phillips—I suggested this for this reason: Last year we had something to say about the American Breeders' Association. That Association is composed of men in all lines of breeding work, and the object is to discuss the methods that they employ in improving the plant or animal on which they are working. The laws that are behind breeding are perhaps few in number; there are certain underlying principles to be considered. For that reason I am very anxious that the bee-keepers, who are interested in the breeder's side of the industry, should become more interested. The bee-keepers can aid in this way, or express their approval, by becoming a member, by paying the annual dues of $1.00 per year, for the whole National Bee-Keepers' Association.

Mr. Kimmey—I move that the General Manager be instructed to apply for membership.

Pres. Dadant—It is moved and seconded that the General Manager be instructed to apply for membership in the American Breeders' Association by paying the fee. All in favor of this say, "Aye."

The motion was carried.

Effect of the National Pure Food Bill.

"What effect has the passage of Hepburn Pure Food Bill on the sale of adulterated honey?"

Pres. Dadant—I have had some particular experience along that line. We have several wholesale grocers, and they have been selling adulterated honey. I went to one dealer and told him that we wanted pure honey handled. He said, "I have had to handle adulterated honey, because everybody does it, but I don't like to do it. We are glad of that law and we will be glad to handle your honey."

Miscellaneous.

Mr. York—I want to refer again to the amendment proposed this afternoon. I was Secretary of the Los Angeles Convention, and Mr. W. F. Marks was then Chairman of the Committee on Amendments. I remember at that time that the convention approved of the amendment, so I think that we have done the proper thing with this amendment this afternooon, because I am sure that a majority of those present would not approve of the amendment proposed. The Constitution is very plain, and that was the way it was proposed to amend it in Los Angeles, which was perfectly proper.

A Member—Before we adjourn, there is one other business proposition. With the kindness of the Department of Apiculture to come here and hold an Inspectors' Meeting, there is no provision for the publication and report of what is said and done next Monday, so that we could all get copies of the same. There is no provision, as I understand, for a reporter to take the proceedings. It will therefore be necessary for us to furnish a reporter. The reporter we have engaged for the National Bee-Keepers' Association, if I mistake not, is willing to stay over and report for this meeting, but that is independent of this Convention, and if we could raise the amount by subscription I would gladly see that done; because the information we will obtain on bee-diseases next Monday is worth a big contribution.

Mr. Victor—I wish to say that the Texas Bee-Keepers' Association will donate the necessary amount. I wish also to state this about the bouquet that has been presented to Dr. Bohrer: At the first session he said he would like to shake hands with him, if there were a Confederate soldier here. This bouquet was given as a token of regard from the South for the sentiments expressed by Dr. Bohrer.

Dr. Bohrer—The language of the flowers is peculiar, and no one has ever been able to express them fully. At funerals, when our friends lie down and die and leave us, we put a bouquet in their hands; at the wedding feast the women and the bride are decorated with flowers. Flowers carry with them everything that speaks of refinement, of sympathy, and of purity. Nothing perhaps of the three kingdoms carry with them such loud expressions as flowers. We have made it a custom up North, when we decorate the graves of the Federal Soldiers, not to forget the Confederates. I don't want to say any more. [Dr. Bohrer as well as many others were almost in tears at this point.]

Pres. Dadant—If there is no more business, I wish to thank the members

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for their kindness and attention during the sessions of this Convention.

Dr. Bohrer—I move that we adjourn.

Mr. Parsons—I second the motion.

The motion was put, and carried, thus adjourning to meet at the call of the Executive Committee in 1907.

The following paper by C. A. Hatch, of Richland Center, Wis., was not read at the convention, as Mr. Hatch was not then fully prepared on it, hence there was no discussion:

WHAT CAN THE NATIONAL DO FOR ITS MEMBERS?

I am not among the number who think the National Bee-Keepers' Association should take up the bee-supply business, neither do I think it should go into the direct selling and handling of honey; this is too large a country for that, the interests of each section are so varied, the grades of honey are so various, that mountains of difficulty loom up at all points; while they may not be insurmountable, the difficulties are too many to think of with comfort. So let us look at things yet undone which are less complicated.

To reach the highest success there must be the best feeling and greatest confidence among members. Loyalty should be the watchword of the membership—this breeds confidence, and confidence gives self-respect. There is no place for jealousy or suspicion in a successful society.

It should be a sort of "clearing-house" for its members, of ideas as well

C. A. Hatch.

as actual products. Not that the products of the membership should be actually handled, but members should be placed in such close touch with each other that each would know what all are doing in the way of producing and selling honey and wax; this leaves no place for secrets.

The Secretary or General Manager should be able at any time to furnish to members or dealers the exact amount of bee-products held by each member, and at what price it could be put on the cars. If a dealer ordered a certain amount of honey of the General Manager, he should be able to fill it from the nearest member having that grade of goods to sell, to the mutual benefit of both producer and dealer.

He who thinks the National can dictate prices and "hold up" the consumer for an advance, is harboring a delusion, besides fostering a principle that has given us over to the power of the trusts.

That the producer does not get all he is entitled to is self-evident, but he has, as a rule, no one to blame but himself; for no sooner does a large crop come to him, and his neighbors, than they all rush it into the nearest market, with the result that they each compete with the other, and the market goes to smash, and freight and commission consume what ought to have been a fair compensation.

The sooner we learn that the interests of dealer and producer require that each should be fully informed as to crop of each year, the better; and do not for a moment imagine you can get ahead of the dealer and get inside information before he does; he has correspondents in every neighborhood that keep him informed, and it remains to inform ourselves as well, and be prepared to act intelligently, thereby will we be able to ask for our crop what it is worth, with the certainty that we will get it. The mere fact that you are a member of the great National Bee-Keepers' Association is not going to help you the least; help can come only from facts and statistics which it can furnish, and if you would get benefit from these you must be prompt to do your share toward making them full and complete; give and you shall receive, withhold, and what you seem to have shall be taken away.

Some seem to think that the mere fact that you are a member is going to give you an advantage in the market for supplies that others have not. If you have that kind of a bee in your hat, get it out quickly, for nothing is further from the facts. No can company or supply dealer cares one cent how many societies you belong to; all he cares is how many cans you want and your ability to pay for them. I know that something to rather disprove this last assertion has been sent to members, yet I am willing to stand by it, for there are facts to back it up.

If you and your neighbors can jointly use a carload of supplies of any kind, then, and then only, can you demand reduction from the dealer; and you are working against your own interest if you do not avail yourselves of the discount on price and saving on freight-rates. If you think some supply dealer is building up a trust, deal with some other one; there are plenty of factories in this broad land of ours, and the supply dealer can not live without patronage; on the other hand, neither can we as producers get along without supply dealers. Do not let us waste strength kicking one another, for each is dependent on the other.

Another way in which members can be helped is by furnishing them information as to reliability of commission men and dealers in the cities. One correspondent at each distributing center could easily do this, and save much loss and trouble. With fair knowledge as to amount of honey produced each year, and a knowledge as to whom to deal with, producers can stand some show of getting reasonable prices.

C. A. Hatch.

The following paper, by Mr. R. F. Holtermann, of Brantford, Ont., was received too late to be read at the Convention.

THE DIFFERENCE BETWEEN RIPENING NECTAR IN THE HIVE AND EVAPORATING IT ARTIFICIALLY

The subject which has been assigned to me has, I am sure, much about it as yet unknown, and yet probably of much practical value to the bee-keeper in making him put a better article upon the market, and assisting him in the sale of it; and to the consumer in showing him wherein lies, in part at least, the superiority of honey to all other sweets, fats and starchy products, as a food.

The apiarian body will contradict itself in the value of honey as long as some of its members claim what has been proven as to the nature of honey, and other members claim that honey or nectar taken from the hive freshly gathered and evaporated outside of the hive is the equal of that which has gone through all the stages in the hive until capped and fully evaporated to the consistency of well-ripened honey.

The obvious superiority of honey over many other products as a food, lies in part in its source—fragrant blossoms. It is gathered by the most fastidious and cleanly insect known; this insect storing the honey, and in the process of ripening the nectar, in the combs and moving it about from cell to cell, inverting the saccharine substance and making in reality a predigested food. Such foods are highly prized, and in other lines very high prices must be paid for them. Nor is this all. Honey is not only a sweet, but it contains an essential oil, imparting to it an aroma peculiar to the source from which it springs; this with our commercial honey, pleasing the palate and bringing into beneficial action the organs of digestion and assimilation. That the honey in the process of production before explained, is inverted, has been proven, the latest evidence being by Prof. Phillips, of the Washington Apiarian Experimental Station.

We know that during the process of evaporating nectar outside of the hive, no honey will be inverted. We can therefore not contend that the product of this artificial ripening is as valuable as that of the more natural process. Some may not be willing—more, I know some are not willing—to recognize this inversion by the bee. The question of the fact is not dependent upon such a recognition any more than that the fact that my friend

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will not recognize me proves that I am non-existent.

Formic Acid.

That the percentage of formic acid varies in various honeys, we know. Some 8 years ago, when conducting a series of experiments for the Ontario Government, I discovered this, and the experiment has since been verified in Europe. Finding that when bees worked on buckwheat the sting was more painful, I thought that the percentage of formic acid in buckwheat honey might be greater than in white honey. A sample of clover and also of buckwheat honey was analyzed, and it was found in the sample sent that buckwheat had about twice as much formic acid as clover honey. I have since realized that this experiment was very crude, and in this direction (formic acid) there is still open a wide field for research. We do not yet know if the percentage of formic acid in honey varies in varieties of bees. That is, do Italian, black, Cyprian, Caucasian, etc., show a marked difference in this respect? If not, do individual colonies show the difference? Does honey gathered early have less formic acid than honey gathered late, irrespective of the source? If so, may it be because honey gathered early has longer time and more favorable conditions under which it can thicken and be less liable to ferment than that gathered later? At what stage, or stages, of ripening is the formic acid put in by the bees, and how? Is it added to as are the secretions which invert the honey, or is it added through the organ of defence? I am not afraid to uphold or condemn the "sting trowel theory." In part it may be correct. Is this formic acid valuable, and do the bees keep adding it as it is being ripened? If so, nectar evaporated outside of the hive will vary in this respect. I would guess that formic acid is added to the nectar in its early stages of evaporation, to prevent fermentation, for without the formic acid in warm and muggy weather, the condition would be favorable to start fermentation, the temperature of the hive never being high enough to destroy the germs of fermentation floating in the atmosphere passed through the hive.

The formic acid may also be there to disinfect the honey to be fed to the larvæ, to prevent the spread of diseases peculiar to bees. The constitutional strength of the bee, the vigor of the bacillus, and the percentage of formic acid in the honey, may all have a bearing upon the spread of disease in the hive, and may be a factor in the degree of immunity from diseases of certain strains of bees. When the above points are answered, we can better answer what is the difference between ripening nectar in the hive and evaporating it artificially.

Aroma.

As to the difference in the aroma or flavor, it may be that the formic acid in combination with the essential oil, causes the flavor or aroma to undergo a change. This I do not know. The milder honey, however, changes its flavor less than more pronounced flavors in the process of ripening. It may be that if there is no essential oil, the formic acid would not have an oil to combine with, and so the change would not take place. We know that the odor in the apiary, especially marked at night, during the gathering season must be at the sacrifice of something. Is this odor not a combination of the peculiar odor of the hive in union with the odor from the nectar? If so, no similar artificial condition can be created. This odor is certainly not similar to that from a ripening tank of nectar.

To illustrate the change: The past summer we had 240 colonies located in an apiary in the neighborhood of a species of mint. I tasted a peculiarly strong flavored honey in the hive, but could not discover its source, until I traced through, first capped and then uncapped honey, back until I tasted the nectar shaken from the comb, and then the smell of the mint blossom. All formed a perfect chain when there appeared to be no connection in flavor between the ripe honey and its fresh nectar. Several of my apicultural students remarked the same thing.

In closing, let me say that we as bee-keepers' do not realize how much there is yet to learn in our profession. We do not realize how great the practical need of learning is, and how little we unitedly are doing to have this work done. The United States is to be congratulated upon the work begun at Washington, D. C. Let us do everything to encourage good work, and condemn in all these positions the appointment of inefficient men. Let us be careful not to demand definite results too rapidly. In research work I rather admire the methods of the best European countries, where they study, and study, and work, upon a question, confirming results again and again before much is given to the public. I would also suggest that these experimental stations, as far as possible, seek the co-operation and corroboration of our best practical bee-keepers' in their own individual apiaries. A committee even (advisedly) to advise as to work, and discuss all the points or conditions which must be alike, in order to compare the merits of points not alike, should be of very great value, and such a suggestion from the National Association would surely have its weight, and might—in fact, should—aid the work greatly.

R. F. Holtermann.

R. F. Holtermann.

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Report of the Chicago-Northwestern Bee-Keepers' Association, held in Chicago, Wednesday and Thursday, Dec. 5 and 6, 1906

The sixteenth annual meeting of the Chicago-Northwestern Bee-Keepers' Association was held in Chicago Dec. 5 and 6, 1906, with President George W. York in the chair.

The convention was called to order at 10:30 a. m., and R. L. Taylor, of Michigan offered the following prayer:

Our Heavenly Father, we thank Thee for the blessings which Thou hast given us to enjoy. We thank Thee that Thou hast preserved our lives for another year; that Thou hast given us a good measure of health and strength. We thank Thee for all the wonderful blessings which Thou hast showered upon us. And now we pray Thy blessing upon us as we are met together to discuss one of the subjects which Thou hast given us to employ our thoughts and our labors. We pray that Thou wilt bless us as an association; that Thou wilt direct us aright; that Thou wilt keep us from wrong; that Thou wilt cultivate among us a friendly, brotherly feeling. We pray Thee to guide us in all our doings while we are here together at these sessions; that Thou wilt direct our thoughts; that Thou wilt enable us to walk aright; and we pray that Thou wilt continue to be with us during our lives; that Thou wilt bless us and keep us from wrong and make us like Thy Son, Jesus Christ, in whose name we ask it. Amen.

As usual at the opening of the session of this convention, the President introduced all present by calling their names and requesting them to rise, so that all might the more easily become known.

The minutes of the previous meeting were read and approved.

The Treasurer read his report, showing a balance on hand of $22.88.

On motion, the chairman was directed to appoint a committee of three to audit the Treasurer's books, and Messrs. Kimmey, Chapman and Wheeler were appointed.

Pres. York—We will now have a recess for a few minutes for the payment of dues.

After the call to order again, the question-box was taken up, as follows:

Experience with Caucasian Bees.

"Will any person having Caucasian bees give his experience?"

E. T. Abbott—A man sent me a queen, and she died on the hive before we got her in.

A. A. Clarke—I have had some little experience, perhaps not worth mentioning, but as I did not hear anybody else reply I thought I would speak. I had 2 Caucasian queens the past season, and I have bred nearly 300 queens from them and probably sent out 150 of those queens to different States, on their own merits. I could not recommend them, because I had not had any experience with them; but I found out that they were excessive swarmers, and not better honey-gatherers than a very poor Italian. It would probably be safe to say that they showed great tendency to start queen-cells when they had sufficient room for all the storage capacity. I found that they were excellent comb-honey-builders, as far as they went, but the record in amount of pounds was away behind the common German bee and the Italian, and a number of bee-keepers could not distinguish them from the common bee. But I do not think I have really had them long enough to say whether that is the natural tendency or not. I think it is hardly a fair estimate. I am wintering 75 of them, selected ones, and I intend to try them.

W. G. Reynolds—I haven't had experience myself, but a neighbor of mine has. A year ago last summer he bought some. He was away one day and a swarm got out, and his wife attempted to hive them, or to get them in, and they got under her veil and she was laid up for a week; and during the time she was in bed, between life and death, her sister attempted to hive another swarm, and she had the same experience.

Wm. M. Whitney—I have one colony of Caucasian bees, but have not had them long enough to form any definite opinion as to what they may be worth. I have handled them a good deal and they seem very gentle. They are what are called a "grey Caucasian." I have handled them perhaps a half-dozen times without smoke and without veil. They go over the frames with their wings about half raised, as if they were going to fly, but still they are very gentle and easy to control. I have been told by some individuals, who had had considerable experience, that they would almost close up the entrance with propolis—they just daub everything up—but that has not been my observation. I don't know what they might do. I simply got mine for the purpose of experimenting a little, to know for myself what to make of them.

Cause of Swarming Impulse.

"What is the chief cause of the swarming impulse?"

F. Wilcox—I venture the opinion that that question is prompted by the statement made that Caucasians show a tendency to swarming, to building queen-cells, and the question naturally arises, Is that tendency a hereditary tendency? Is one race or strain of bees more inclined to swarm than another, or is it other conditions, such as atmosphere, or differences of the season? There are various influences that tend to promote swarming, but the question is, What is the chief influence? And I wonder whether the tendency to swarming is anything against the Caucasians or not, whether it is hereditary or not.

H. F. Moore—It occurs to me that the chief cause here is the insinct implanted in man, and all animal creation from man down, to multiply and people the earth. That is the reason why bees swarm, and it is absolutely hopeless to attempt ever to get rid of it. The question is, Is it desirable to get rid of it?

Mr. Wilcox—The question is, Is it greater in one race than another?

Dr. C. C. Miller—If it is not getting away from the subject, I would like to reply to Mr. Moore's remarks, that however undesirable it may be for him to try to get rid of the swarming impulse, there are a whole lot of us that would give just about half our lives if we could get rid of the swarming impulse. It would take off half of the trouble we have in bee-keeping. I, for one, have been trying to find out for a good many years what is down at the bottom of it, that is, the answer to that question. I don't know what it is, by any means. I think possibly there may be a good deal of reason in the answer that is given by some, that the prime cause of swarming, or the basic cause, at least, is the accumulation in the nurse-bees of a certain amount of the chyle food they have prepared, and they become, as you might term it, in that way clogged with that, and then comes the swarming fever. Now if Mr. Moore is correct, of course we don't care anything about that. I am sure that Mr. Moore is "away off." In my case, I would give a whole lot to know what makes bees swarm, and put a percent on top of that to know how to stop the swarming.

Mr. Moore—Produce extracted honey.

E. K. Meredith—I suppose that the impulse of swarming is in the relation, to a certain extent, of birds laying eggs. It is just simply a matter of nature propagating or keeping up the race of bees, just the same as any other bird or animal does. That is my answer to the question of why bees swarm.

Mr. Abbott—I think about 15 or 20 years ago I wrote some articles for the American Bee Journal, that seemed to have a good deal of heresy in them, in the minds of some of our brethren, among them Dr. Miller; and I think I stated in one of those articles that it was just as natural to swarm as it was to live, and the swarming impulse was what made bees valuable. I have never gotten away from that idea yet.

Dr. Miller—Never ceased to be a heretic!

Mr. Abbott—The bees that swarm are the bees that do the work. They have the energy and vigor and enthusiasm of all young life. They have the enthusiasm of a couple that is just founding a new home, and planting shrubs and flowers and things about it, endeavoring to develop and make it what a home ought to be. Now bees do the same thing, and are influenced by the same impulses, divine in their nature, planted in their being when the Almighty gave them existence, and it is just as futile for a man to attempt to breed it out as it would be to attempt to stop the sun in its course. It lies in the very foundation of life itself. The first germ of life that existed had in it the impulse of development and division, separation, and so it has gone on amplifying and increasing until we have today the endless germs that people this earth, and the planets that "people" the heavens above, and that will go on forever. It is all right to make the best of swarming, but bees will always swarm in spite of you.

Mr. Whitney—The question is, What is the chief cause of swarming?

Mr. Abbott—The swarming impulse.

Mr. Whitney—I think Mr. Abbott has hit the nail pretty nearly on the head; but we notice that in some seasons the

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swarming impulse is a great deal stronger than it is in others, and it seems to me one of the chief reasons for that has been a close, damp atmosphere, with not quite room enough, or ventilation enough, in the hive. Now I think that if one can anticipate the weather, and will give the bees sufficient room, and good ventilation, one can very often break up swarming.

W. C. Lyman—I have experimented more or less along this line, and I find that if you could eliminate from the colony of bees, that is, from the hive of bees, the young bees—those just hatching, and so on,—the remainder of the colony will seldom swarm, and there are ways that that can be done. Perhaps I will show some of the ways tomorrow—ways in which I have done that.

Dr. Miller—If it be true that the swarming fever is a thing that gives life—maybe I don't quote exactly—but if it is the grand opportunity, that there is where you get the bees that will do the work, the ones that swarm the most, then we want to encourage swarming, and we want to have a whole lot of other swarms and all such things as that. Now I don't believe a word of it, that it is an instinct that is in all of them, and they will all swarm anyhow, and you can't do anything about it. That is all nonsense. There are plenty of men here today that know that there are certain bees that will swarm more than others. Take the Carniolan and compare them with other bees, and there is a difference, and in any kind of bees, whether Italians or blacks or what they are, there are certain strains that will swarm more than others. I have tried for a good many years to do a little in the line of breeding from those least inclined to swarm. It may be entirely true, and I am not sure but it is. I am a little afraid Mr. Abbott is right when he says you never can get the instinct out entirely, but I believe you can get a whole lot of it out. I know that the past summer—it was a year of failure with me, but I think all will bear me witness that in years of failure there is often as much swarming as in good years—sometimes in good years, when the bees get thoroughly interested in storing honey, we have very little swarming. This year I know of but one colony amongst my bees that made any preparation whatever for swarming. I am just as sincere as I can be in the belief that my attempting to breed from those least inclined to swarm made a difference. I don't know how much difference. I believe, though, that it has made a real difference, and that I have less swarming today because I have tried to breed from those bees that did not swarm. If any of the rest of you want swarming, it is all right. I don't want swarming; none of it in mine, if I can get along without it. I know it used to be, and is today, customary to talk about the enthusiasm there is in seeing the bees flying around, and all that sort of thing. It makes me sick when I see them come out.

R. L. Taylor—How poor a season, I would like to ask, did you have?

Dr. Miller—It was so poor a season that I think I did not get more than 2 pounds of surplus honey and it was not so bad as it might have been, because the last of the season the bees got a good amount of fall honey for the winter stores.

Mr. Taylor—Would you really like to have us believe that your bees did not swarm because you have been breeding for non-swarming, rather than they did not swarm because there was no honey coming in?

Dr. Miller—I doesn't matter so much what I believe about that—

Mr. Taylor—No; I don't ask you what *you* believe, but I ask you what you would have *us* believe.

Dr. Miller—You asked me what I think. I am going to give you one or two facts, and you can believe just what you like. I spoke of what was the fact this year. Now years ago I had just the same kind of season that I had this, and I had ten times as much swarming as I had this year.

Mr. Taylor—Yes. Do bees ever do anything twice alike?

Dr. Miller—No; not mine.

Mr. Taylor—Well!

Mr. Lyman—Dr. Miller referred, I think, to the nurse-bees. I would like to ask, when a swarm issues naturally, where will you find the majority of the nurse-bees—going with the swarm or remaining in the hive?

Dr. Miller—I have been taught that it is a mixture, that all sorts go and all sorts stay. I think I have seen the statement that young bees go, and sometimes the statement that old bees go. I think that the general concensus of opinion is that it is a mixed lot. There are field-bees that go with the swarm, and there are nurse-bees that go with the swarm—all sorts.

Mr. Taylor—I have seen a good deal of swarming, and I think that pretty much all the bees that can fly in the hive—a large portion of them, that can fly and get out in time to go with the swarm—go, and often bees come out that can not fly, and try to get away and can not, because they are too young. If the nurse-bees can fly, then the nurse-bees go with the swarm, and if they can not—if they are too young to fly—of course they have to stay behind.

Mr. Meredith—From 103 colonies of bees last spring I had 2 swarms. Three years ago from 48 colonies I had possibly 60 swarms, and I have come to the conclusion that bees look a little farther ahead for what they expect to be than possibly other animals, and I should judge, from what I have seen, that unless the conditions are favorable for a honey-flow, the bees will proceed to swarm.

J. C. Wheeler—I was just recalling a thing that happened, and wondering how long ago I remembered the subject and these very same arguments used. I believe it was 15 or 16 years ago, in this very same convention, the very same question came up, and the very same answers were made. I believe Dr. Miller made very nearly the same speech and I was wondering, in 15 years how much advancement had been made. Probably every year we have discussed this question, and I doubt if we have any of us advanced one step along the line of keeping bees from swarming, or eliminating the swarming instinct. I may be mistaken.

F. L. Kimmey—I am young in the business, and I would like to have you continue repeating the things that were said before I was here. While it is true, as Mr. Wheeler says, we do not gain fast—we sometimes say there is nothing new under the sun—yet what we do gain comes in this way, and I, for one, vote to keep it up. Two years ago—and when I mention this I hope we won't fall into the error of thinking that Dr. Miller has produced bees that do not swarm because they did not swarm this year. The year preceding this there were few swarms; then they swarmed oftener than I had colonies, that is, some of them swarmed twice and some three times. I did all I could to prevent it. This year I did not see a single swarm, with double the number of colonies, until I stopped watching for them. There seemed to be something in the season. I did not see a single swarm until away along in the month of August I discovered one hanging on a tree, and after that I found another, and away late, about Oct. 5, I found a swarm hanging on a tree. I mention this fact to show that there must have been something in the season rather than in the bees, for I had done nothing whatever to produce a race of bees that would be non-swarming. Yet I believe, and I sincerely hope, that Dr. Miller is right, that you can produce a strain of bees that will be non-swarming; and I think from the success that has been achieved in other lines of race-breeding, that we can do something in that direction.

W. B. Chapman—I would like to say in relation to the subject under discussion, that I have kept bees for 17 years. I started with one colony; never have gotten any outside blood in my apiary, and from that one colony I now have, of the original strain, 11 colonies of bees. I have never had an afterswarm. I have been in a location where we always had plenty of honey. The least amount of honey that I ever had was 30 pounds to the colony; the most was 70 pounds; and right here in Cook County. I believe that I have a strain of bees that are considerably non-swarming. From what I have heard of afterswarms and such matters here in convention, I have always considered that I must have been very fortunate to have had a non-swarming strain of bees to start with.

Mr. Wilcox—I asked that question, because I wanted to know, and not because I knew as much as the rest; but I have studied it for 20 years. I know something about it, and I agree pretty nearly with Dr. Miller, that there is a little in the hereditary tendency, but not enough to rely upon it altogether; that it is possible that the Caucasians may be more inclined to swarm than some other races or strains, but, after all, there is evidence on both sides. I have noticed, some seasons, when I produced comb honey, in examining my hives, that the colonies all started queen-cells at about the same date. I have gone through my apiary and found almost every colony preparing to swarm at the same time. Now the question was, whether they contemplated the sea-

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son and what was coming, and prepared for it, or what would cause them all to take that notion at the same time. I then reached the conclusion it was the hatching period, and the prospect of a honey-flow, or something of that kind. There is a good deal there worth considering. I have, however, had some colonies that did not swarm, never swarmed, and I don't know whether I could make them swarm or not. I never tried to. But they didn't. They were prolific and good honey-producers. I followed the queen up in one particular case. I had an excellent crop of honey and the bees never swarmed, and her progeny—as I reared queens from them—was not inclined to swarm. So there is something in that hereditary tendency, but how much I would not care to say. I want to know more about it. I know that I can prevent an apiary from excessive swarming, in comb or extracted honey, by giving them surplus room and good ventilation a little before they are ready for that—a little too soon rather than too late—and giving them shade, plenty of it, will check the swarming impulse very much.

Mr. Meredith—While bees may be bred to a certain extent non-swarming, possibly the same relation may apply to bees as does to poultry. The Mediterranean class, including Leghorns, as we usually keep them, are non-sitters, but if they have their own way, where they can go out into the brush and lay their eggs, I think that they will have the sitting fever the same as any other breed of chickens; and I think, possibly, that same rule might apply to bees that if they get back to their natural rock cavities, or logs, they will swarm just the same as ever.

Using Quilts Over Frames.

"Are quilts worth enough to bother with?"

Mr. Wilcox—What do they mean by "quilts?"

Mr. Chapman—Covering for the frames in the hive.

Mr. Wilcox—An enameled cloth is not a quilt for covering the frames. That is used for another purpose. A quilt is used to prevent the heat from escaping at the top, and an enameled cloth is used to prevent the cover from sticking. I used to use the enameled cloth, and I have tried a good many times to use a board, but it causes me more trouble than it is worth, so I continue to use the enameled cloth.

Dr. Miller—Allow me to suggest that there are three alternatives in that. One is the quilt, another is the enameled cloth, the other is to use the naked frames; and it might be worth while, instead of discussing the matter, just to take a vote on that, how many prefer the naked frame.

Pres. York—How many prefer the enameled cloth, just raise your hands? 5. How many prefer quilts, raise your hands? None. How many the naked frames, without anything over them? 12.

Mr. Whitney—It would depend upon what that quilt is used for. I would prefer a quilt for certain purposes. I do not know the difference between the enameled cloth and the board, because I use the enameled cloth and I know nothing about the other. But I use a quilt sometimes over the section-cases to keep them warm.

Mr. Abbott—Do I understand they are used without any covering at all—any board, or anything?

Dr. Miller—Let me explain, Mr. Abbott, that this is a body of bee-keepers, and that they have their little ways of talking about things without using a lot of words!

Mr. Abbott—They should use good English. The best thing I ever saw to put over the top is a board.

Dr. Miller—That is a good thing too! (Laughter).

Mr. Abbott—Mr. Wilcox says they stick fast to the boards. In most hives they only touch in two sections, and I do not see how they stick as much as the cloth. When we used to use a cloth in Missouri the top would stick fast.

Mr. Wheeler—How about the bees?

Mr. Abbott—That is the way they do, and there is a row of propolis right around, just the shape of the section. I never saw any in Missouri that did not do that.

Mr. Wilcox—I am surprised, for I have used them for 40 years and never saw a single instance of sticking to the enameled cloth. I am sure that won't happen in Wisconsin. They of course build new combs to them, so that the enameled cloth is stuck a little, but you can take hold of one corner and turn it back without disturbing or alarming a single bee, and for that reason I much prefer to use such an arrangement and to scrape the frame down, often, because they will build up to it, and sometimes push it up and fill up the space; but when you have only the board, if you leave it long enough the bees will stick it down and close the cracks airtight, and if you do not it will stick in places and the wind will blow right through under it from one side to the other. The heat must escape. It certainly cools off the top of the frames more than it does where there is an enameled cloth over it; and for that reason I prefer the inconvenience of the enameled cloth rather than the board with its perfect fitting on the upper edges of the hive.

Dr. Miller—May I ask, Mr. Wilcox, whether you ever knew your bees to carry the black material from the oil-cloth down and use it in the section-combs?

Mr. Wilcox—I have known several such instances. It is not a common occurrence. If there should be any ragged edges the bees could get at they would tear it out, and they might carry it down and attach it to the cappings of the combs in some cases.

Mr. Abbott—Will they cut holes through them?

Mr. Wilcox—No; I never knew of it. A worm will do it, and do it quickly, if there are any moths in it, but the bees do not do it unless the enamel is cracked from being handled when cold.

Is Honey Vegetable or Animal?

"Is honey a vegetable or an animal product?"

Dr. Miller—Yes.

Mr. Abbott—I think some that I have seen in our market was purely animal, and two-legged animal. The ordinary honey I think is vegetable.

Mr. Taylor—Is a boiled potato an animal or a vegetable production?

Dr. Miller—I believe that is really a serious question, after all. I am sure I don't know what the answer is.

Mr. Moore—About a boiled potato?

Dr. Miller—Mr. Taylor's question is entirely applicable, and yet the question would come, Where is the line to be drawn? I should say a boiled potato was a vegetable without any question, because it has not ceased to be a vegetable, and yet the thing gets mixed up and in the case of the bee here is a vegetable material that is afterward worked up by an animal and there is animal mater in it. I confess I don't know. I wish I did know. If Mr. Taylor has an answer to it, I wish he would give it to us.

H. M. Arnd—I asked that question. I knew it would cause a good deal of laughter, but one of my customers met me on the street the other day, and I told him that honey is vegetable, and he argued and argued with me that it is animal. I told him there was going to be a bee-keepers' convention, and I would bring it up.

Mr. Wilcox—In my opinion it is a vegetable product. There is nothing animal about it. Sugar is not an animal product. Sugar syrup isn't animal; has nothing to do with it. It is derived from a vegetable in the first place, and it is boiled down—as it were, somewhat digested, perhaps—I am not sure about that—but at any rate, it is derived from a vegetable and retains a vegetable character, and there is no animal character injected in it, although it might be digested and assimilated and converted into animal, but I do not think it has reached that stage.

Dr. Miller—We do know that there is injected into the honey something by the bee. Come back to milk. Is milk a vegetable or an animal product? If you are going to rule honey out, and say there is nothing animal about it, by the same token we can rule milk out. There were those who said that honey was gathered from the flowers—bees do not make honey. There were those who said, the bee makes honey. I think nowadays we are pretty nearly all agreed that the bee has something to do with making honey. If it has, look at it and see if there is something animal in it.

Mr. Moore—Maybe this will throw some light on the question, the illustration of the maple tree. A man taps the maple and carries the sap to the sugar camp and boils it down. There might one of his finger-nails drop in it, or even a lock of his hair; there might be some slight mixture of animal with the vegetable. Here a bee carries the sweet from the flower just the same as a man carries sweet from the tree.

The Members—No, sir! No, sir! Not a bit of it!

Mr. Moore—There is no chance for argument, I believe. They are both vegetable absolutely, all the time.

Mr. Taylor—If the bee should carry the nectar, put it into the cell and leav-

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it there, what would it be? Would it be good honey?

Mr. Moore—Bad honey is honey, just the same.

Mr. Taylor—No; it is nectar.

Dr. Miller—Mr. President, wouldn't it be of advantage to talk about something we know something about?

Pres. York—*Sure!*

Mr. Kimmey—If we are going to talk about something we know all about, there is no use of talking. We might as well go home.

Pres. York—I think a convention of bee-keepers ought to know something about honey.

Mr. Kimmey—Perhaps you will remember a few years ago we were talking about the same question, and I asked Dr. Eaton, the Illinois State chemist, if it were possible for a chemist to produce a single drop of honey, and he said no. We may talk about bees gathering nectar from the flowers; it is not honey. I once at a table said to a lady, "Why do you put cream in your coffee? Why not put in butter? It is the same thing." "Yes," she said, "Why not put grass in your coffee? It is the same thing." It isn't the same. You can't make a drop of honey unless you let the bee go out and gather the nectar and put it in its organism. I have tried to find out exactly what they do. You honey-dealers just keep quiet a little and try to look wise. I have seen some of your product and, unbeknown to you, I have had some of it analyzed. You do not get honey until the bees work it over. I think you can say they make honey just as surely as the cow makes milk, and in that sense I think it is an animal product, from the matter of working over a vegetable product, just as lard is an animal product; perhaps not exactly work on it, but there is a change made which makes it animal instead of vegetable. It is not simply gathering nectar.

On motion, an adjournment was taken until 1:30 p. m.

FIRST DAY—Second Session.

The convention met at 1:30 p. m.

Pres. York—Is there anything to come before the convention before we take up the questions? Under the heading of Miscellaneous Business there is the question of joining the National Bee-Keepers' Association in a body. What shall we do about it?

Joining the National in a Body.

Mr. Wilcox—I move that we join the National in a body.

The motion was seconded.

Pres York—Are there any remarks on the motion?

Mr. Moore—Not to obtrude my own views on this assembly, but to get the subject before you, I want to object to joining the National in a body. My objections are nothing new. Our income is rather small. The Treasurer's report shows about $22 in the treasury before this meeting, and when we join the National and pay them 50 cents, and join the Illinois State State Association and pay them 25 cents, that leaves us 25 cents for our income, which is hardly sufficient to pay our expenses; and if this Association wants to continue joining both these associations in a body, I want them to do it with their eyes open to the facts in the matter. Do what seems best.

Dr. Miller—Across the ocean they are a long way ahead of ours. Only this past week I noticed the Austrians were congratulating themselves that they had reached the number of 10,000. Then here is the united organization of pretty much all of those that use the German language, in which I think there are perhaps 30,000. They do it largely by the fact that the smaller societies unite, and if we consider it important to have the National Association what it ought to be—if it grows to what it ought to be—I believe it will be more than anything else by associations like this joining in a body. If we do not do it, the National is going to remain always a great deal smaller than it will if we do; and so for the sake of having the National encouraged and increased as it ought to be, I should even vote to increase the amount of money we pay into the treasury here rather than to withdraw from uniting with the National in a body—if that is the only question—the question of money—and it is necessary to have a larger amount of money. I consider it of very, very great importance, that we do that very thing—unite in a body.

The motion was put and carried.

On motion, it was voted not to join the Illinois State Bee-Keepers' Association in a body, a very influential reason being that if we join one State association we ought to join several, as different States are represented in the membership of the Chicago-Northwestern.

How to Construct Langstroth Hives.

"How should the Langstroth hive be constructed for general convenience and durability among American bee-keepers?"

Mr. Taylor—A plain box, without any cleats.

Dr. Bohrer—I wrote that question. I began the use of the Langstroth bee-hive more than 40 years ago. I think in 1864 I used it first, and Mr. Langstroth himself used it at that time. I have seen a good many changes, some very valuable improvements, and some so-called improvements that in my opinion are not valuable improvements at all; at least, they would not work well with me, and in bringing up this question I have no war to make with the gentlemen who manufacture bee-hives. I believe it to be the duty of bee-keepers, not only as individuals but as an organization, to make known to the manufacturers what their actual wants are, and ask them to make their hives in accordance therewith; and I believe they will do it. As long as we stand off and they go to work and make a hive of this idea and that and the other, you will have a whole lot of different patterns, and no one will suit but a few bee-keepers. I have never seen a hive that pleased me any better, that is, the construction of the frame, than Mr. Langstroth's frame as he used it 40 odd years ago. The bees in Kansas would not glue the frames together, as they do with what is known as the Hoffman frame. There are two valuable features about the Hoffman frame—the heavy top-bar and grooves. The frames as constructed by Mr. Langstroth I liked as well as anything at that day and time, but the grooved frame and heavy top-bar were certainly improvements. The Hoffman frame did not suit me at all. I killed too many bees, even if there wasn't too much propolis carried in. I object to that, and I object to the so-called improvement of the bottom-board being made out of lumber hardly ¼ inch thick, so that it will shrink and the bees crawl out of the bottom. It is too thin to ship bees in, and not safe to handle bees in to move them from one apiary to another, or even about the farm. I say to manufacturers, Don't make them that way. You are not benefiting us as you might do with another follower or division-board. I want it made out of something not less than ½ inch thick. I would not undertake to ship a colony of bees with that kind of a bottom-board. I have to go to work and make new bottom-boards for those hives. They are absolutely next to worthless. I want to repeat that I am not making war upon any manufacturer, but when you manufacture a hive of that kind you are not manufacturing what the bee-keeper really wants—what he stands in need of.

And now on the production of comb honey. I am not handling bees much for comb honey. Men who do would know more how to dispose of that feature of the subject than I do. My idea is and has been for years, that I can produce more honey and cheaper and can sell it for less money, and in the long run make more money, than the man can who produces comb honey alone, that is, by the use of an extractor.

Mr. Sewell—The hive I use myself I can make for about 25 cents. I mean I can get it cut out at the mill for about that price, and it is a good hive. But perhaps it could be improved quite a little. While I had a Langstroth hive when I was about 10 years old, yet I have not had very many hives since, for the last few years not over 5, and it seems to me I could learn a great deal about hives. The hive that we have is a dovetailed; that is a little more expensive than necessary, it seems to me, but I don't know. Perhaps 20 years is long enough without painting, but if they last 20 years without painting, they ought to last considerably longer if they are painted; but it is a question that I think all of us are very much interested in. Personally, I like the halved corner better than the dovetailed corner.

A Member—Can you get that for 25 cents?

Mr. Sewell—I mean just the brood-chamber. The hive I use is a very plain hive. I don't know that I need to describe it, but I would like to hear more said about this matter. A great many of us want more hives. We want them as cheap as we can get them. We want them as plain and as easily operated as possible, and we want them to last just as long as possible.

Mr. Taylor—I have had considerable experience in using hives and in making them. Some here have had more experience than I have, but I should say that if a person wishes to use a Langstroth hive, to make it just as plain as he

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possibly can. If he wants anything over and above the boards sawn square across at the ends of the hive, he can make it a little firmer at the corners, but I do not think that is necessary. If made out of good, fair lumber, what we used to call "cull lumber"—they don't call it cull lumber now (lumber with some occasional "shakes" in it, or a wormhole)—and nailed together at the corners, it will last 30 or 40 years, with reasonable care. All it wants is a plain bevel at the ends inside, and it does not want any cleats around the outside; it wants handholds, and that is all I should put in a hive. There is no need of paying $1.50 or $2.00 for a hive, when you can make one from which you can get just as much honey for 25 cents.

W. Z. Hutchinson—For the bottom-board I would just have a plain board. Some make a board with a cleat at the end to keep it from warping, and a rim on each side. I agree with Mr. Taylor about the sides—just plain boards nailed together.

Dr. Bohrer—How thick do you make your bottom-board?

Mr. Hutchinson—⅞ inch. Plain handles to lift it by; cover and plain end; plain rabbets at each end to hang the frames in; and all-wood frames.

Mr. Abbott—I am interested in where these brethern live, that they can buy lumber enough to make a box as big as a hive frame for 25 years. Take any hive-frame, make it 12 inches long, where can you buy that amount of lumber?

Mr. Taylor—How many feet are in it?

Mr. Abbott—You can figure it yourself. They charge down in our country for the cheapest kind of ship-lap that you can get—that is, so full of knots you can't put your finger down where there isn't a knot—$2.50 a hundred.

Mr. Taylor —Move into Michigan.

Mr. Abbott—And for any kind of lumber such as used in a modern bee-hive you have to pay from $3.50 to $4.50 for the lumber. We could go back and wear homespun jeans, if we wanted to; we could go back to the long-horned Texas steer; we could go back to a great many things; we could go back to homely men and women if we wanted to; but in these modern days we want a good looking woman, a well-dressed man; a fat, sleek cow; a fine house and an automobile; and I do not see why a bee-keeper is not entitled to just as good things as other people. Thirty years ago they said that cheap clothes made a cheap man. There is a good deal of truth in that. And cheap bee-hives make a kind of cheap bees and a Cheap John affair all around.

Mr. Taylor—We are not proposing to go back. We are proposing to go ahead. These men who are making supplies are inviting purchases, and they are asking big prices, and men who have not very much experience—who have not the ability to make their own hives—are buying them. When they get those hives and put bees in them and look after their crop, where are they going to get the money, after paying for all this stuff, to buy their fine Jersey cows and their automobiles and their fine houses? I tell you, we are in the business to make something out of it, and we can't make anything out of it if we go to these men and buy the stuff that they offer at their prices. That is the way I look at it.

Mr. Stuebing—I think every bee-keeper will pay a little higher price if he gets a good bottom-board and a good cover. I think they are the important things.

Mr. Wheeler—I am a friend of the bee-keeper, and a friend of low prices as far as you can get a good article for a low price, but at the same time on this bee-hive body, I think the dovetailed corner is a great improvement. I have had hives side by side and have tried them for 15 or 20 years—one with corners simply nailed together, and another lot where I dipped the dovetailed corners into a good strong paint, drove them together, and they have stood the weather nearly 20 years without being warped or twisted. I believe the dovetailed-corner bee-hive is far and away ahead of the other, in which the nails will rust and they will begin to twist, and they won't either fit the cover or fit the bottom-board, but they will twist out of shape, out of square. The dovetailed-corner hives, if they are put up right and driven together, with new paint, will last indefinitely. They will never lose their shape, and no matter if the nail rusts off they will keep their shape. They have great trouble nowadays with the nails rusting off. It is surprising how well those hives will keep their shape even after the nails are gone. I am in favor of the dovetailed corners.

Dr. Miller—There are so many different points of this question we hardly know where to grab on. One thing that has been neglected is the cover. That has not been tackled, and the thing I am most anxious about is the cover. We haven't a good cover yet that I know of—a satisfactory cover. Some of these good people that have learned how to make hives, let them tell us how to make the cover.

Pres. York—Mr. Hutchinson says a ⅞ cover.

Dr. Miller—Plain board, with a cleat on each end. I have had lots of them. They will warp so that a bee will crawl out from underneath, "in my locality." It makes a very satisfactory cover; if it would stay always new and always straight I would like a plain board cover, I wouldn't want any thing better. Another objection to them is that they do not protect enough. They don't keep warmth enough. A cover with an air-space is very much better than that. They are very expensive; but if we could get one that was reasonably inexpensive, I should like that kind better.

Dr. Bohrer—Dr. Miller, do you use covers made in 3 pieces, that is, the cover itself, with the cleat on the end? How do you like them?

Dr. Miller—I have used them with 3 pieces, with 2 pieces, and with one piece. The one piece is the most satisfactory for me, and yet it has that objection. I can not keep it square, and no amount of cleating will keep it square, either.

Mr. Taylor—What kind of lumber do you use?

Dr. Miller—I never tried basswood. That might twist worse.

Mr. Taylor—What kind of pine?

Dr. Miller—A white pine.

Mr. Taylor—Your locality must be very bad.

Dr. Miller—It is.

Mr. Wilcox—I shall have to agree with Dr. Miller about the covers. I have them in use and have for many years, and as they get older they will warp and sometimes crack. I have never been able to make any that would stay good, year after year, for any great length of time. We have fine yellow pine up in our country. If it were not for the cost I would want a gable roof, and I would really think I would do better if I had a little cleat around the outside of the hive, and had that set over on that. I rather object to the wind blowing straight through it under the cover—in at one side and out at the other. It ought not to do that. I would have room for covers if I wished to use them. I believe the cover is quite an important matter for the bee-hive. There is just one more point in regard to the dovetailed corners. If you are going to buy your hives made in a factory, they are a nice thing, and I would buy them. If you are going to make them yourself, don't, because you make them up pretty quick and they are liable to shrink, some pieces more than others, and the dovetailing does not fit. Another reason why: I can make a very good hive and one that will stay good by rabbeting the end pieces ⅞ inch deep half way through the board. That is equal to 7-16 inch deep on the three sides. The top and the two ends and the side of the hive are nailed into them, and they are also nailed the other way. They are nailed both ways, and they hold together just as well as the dovetailed. I have had them in use side by side for the last 10 or 15 years, and can see no difference; and it is easy enough to make them that way.

Mr. Taylor—I want to say a word about the cover. I have a great many covers. Of course, once in a while one will warp a little, but I would not use a ⅞ inch board. I would use a ⅝, and you see at once the reason for it. It has not the strength in warping to draw the cleats out of shape. I would use a ⅝ inch board, and instead of using a single cleat at the end I would have a flat piece nailed on to the end of the cover even with the upper surface of the board, and then another flat piece up on the top covering the first cleat and part of the board. In that way you will likely get those two parts of the cleat so that they will not both want to go in the same direction if the cover wants to warp. If you use that thickness of board, ⅝, and cleat them in that way (I can't give the size now of the cleats I use, but not very heavy), there will be very few of them that will warp to do any damage.

Mr. Wheeler—I have one idea on this subject. It is not my idea; it is the idea of James Heddon. The first cover he put out gave a space all around and under the cover. We tack a strip on the outside edge of the cover on the side and a cleat on the edge—I presume you have seen them described in the American Bee Journal——so that the cover sits on the rim and does not crush any bees; and if the board in the center warps, the outside rim sits square

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because it is fastened to the ends. The 4 pieces around the hive are fastened together, and if the center board warps or twists a little bit it does not allow the cover to change so that the bees can escape. The warping of the main cover does not affect the warping of the rim outside, which will maintain its shape, because the ends of the 4 pieces around are nailed together, and rest down on the square hive. I like it very much, and I do not have any trouble at all with the cover warping enough to let the bees get out or the cold weather to get in.

Mr. Hutchinson—When a board warps, it is the heart side, that is, the convex; and in nailing up the hive turn that side up. It is at the corner of the hive, and not in the center—it is always at each end. Nail them up with the heart side out, and then the tendency is to warp to the center, and that is almost impossible. If the corner will stay the board will last.

Dr. Bohrer—I want to sanction what Mr. Hutchinson said in regard to the manner in which boards ought to be put together, whether top, bottom or side. With regard to the roof of a hive, I think, as Dr. Miller said, that it is one of the most important things connected with the hive, to have a roof that will not leak, and one that will be the least trouble. The roof that has given me the most satisfaction is made of two boards, coming together in the center, and the outer edges being dressed down, beveled with almost a feather edge, or ½ inch, maybe, at the outer edge, and ⅞ in the center, and then a saddle-board on top of that. In putting them together they won't come down square on the roof, and I make it a rule to put a weight on them—a brick-bat. That will usually weight them down, and I do not find that kind of cover to warp very much. There is the cover made of two boards, in the center a piece of tin, and as long as the tin is well painted it will last 15, 20, maybe 25 years. In calling this question up, understand it is not the price of hives that I wanted to bring up a discussion in regard to, but for convenience and durability—that is what we want. The price is one thing, and the question of durability and practicability is another.

National Food Law and Honey.

"Will the National Pure Food Law, enacted by Congress, increase the sale of either or both comb and extracted honey?"

Mr. Taylor—No.

Mr. Nau—Yes.

Mr. Arnd—I think it will. At least I have found it so in the grocery trade in Chicago. We used to have to send a wagon to sell our honey, and now they come to our place and get it. Those people that have been putting up bogus honey are out of business today. I think it will increase the sale of pure honey.

Mr. Wilcox—I think the more pure food laws we have the better. It does increase the sale of honey. The pure food law increases the sale of almost everything that has been adulterated. It restores confidence in the product, and the people will buy. I think it is a good thing in that way.

Mr. Wheeler—I would like to ask what is going to be done about the honey-dew that happens to get in the honey. How are we going to meet that?

Mr. Moore—I think the answer to this is that this law, as drawn, includes honey-dew—a small amount. It is not illegal to have a small amount of honey-dew in the honey. That is my understanding of it.

Mr. Wheeler—That is rather indefinite, isn't it, a small amount? What does that mean? One inspector might say it was a small amount and another, a large amount.

Mrs. Glessner—Isn't the adulteration to be by man instead of the bees?

Mr. Taylor—Not according to the law. If there is too much water in it it is adulterated, even if the bees do it, as I understand it.

Pres. York—I would like to hear from Mr. Burnett on this question. He has a little (?) experience in honey, and probably can tell whether this law is going to have any effect upon the sale of either comb or extracted honey.

Mr. Burnett—It has not been in force long enough for me to give an opinion on it!

Mr. Abbott—There seems to be a misunderstanding about the law, and bee-keepers ought to understand it thoroughly. The lady is correct as to the adulteration—the statement of the law; but the Board of Agricultural Chemists have made some rulings in their application of the law as they understand it, and those rulings become law, and among the rulings the last circular that was sent out by Dr. Wiley's department, who has charge of that, it is said a small portion of honey-dew could be included and it would not be considered adulterated; but they specify how much water may be in; in other words, they describe what pure honey is, and if it does not come up to their tests, no matter where it came from, it is impure. If you get it out of a bee-hive, and never put anything in it, if it won't stand the test of the law, it is impure. The same thing occurs in milk. The regulations, I presume of Chicago, make it 3 percent, butter-fat; they do in Kansas City, I know. It is a fact that Holstein cows, and some very good ones, give milk that tests but 2½ percent, and a man was arrested in Kansas City for selling Holstein milk that he milked from his cow. It was a gross injustice, of course, and the law ought not to be administered, in my opinion, in that way. Bee-keepers ought to take that matter up and agitate the question until there is some relief along that line. No man should be prosecuted for selling the natural product for what it is. A man who sells the milk from a Holstein cow that has 2½ percent, or even 2 percent, of butter-fat, ought not to have to go to jail for it, if he milks it from the cow, and does not put any water in it. Any law that condemns him is wrong. Any law that would condemn a man for selling what his bees gathered is radically wrong, in my opinion, and he ought not to have to go to jail for anything of that kind. But as a bee-keeper he ought to avoid putting anything on the market that would injure his trade. I would not do that, not because I am afraid of going to jail, but because I do not want to injure the trade. Any honey that does not come up to the standard ought to go into manufactures, or into the sewer. That is the way it looks to me.

Mr. Wilcox—I think a man that would produce milk testing less than 3 percent should be punished for it—not for the injury done to others, but for the injury done himself. A man who produces honey testing more than 25 percent water is producing honey that won't keep. If it is exposed to a warm temperature it will sour. I think the rules and regulations are right as they are.

Mr. Wheeler—Now don't you think that we are up against a hard proposition? We can't follow the bees and find out where they gather their honey. What in the world are you going to do? Are you going to have it tested every time you sell a gallon of honey? One colony may gather honey-dew, and another one clover honey. Who is going to tell? You put that honey on the market in good faith, and if it doesn't stand the test, what are you going to do? There was a committee appointed at the National Convention to meet with the chemists and formulate some kind of a formula for honey, and what did they do? They eliminated honey-dew—anything gathered in the shape of honey-dew was eliminated from pure honey. Of course, they say now a little of it will not do any harm—we will overlook a little of it—but that leaves the leverage with the man who tests it—with the chemist. He can put his finger on one man and not on another—do just as he pleases. It seems to me that the only straight way to do is to make honey pure when it comes from the bee—the only way that any man can safely sell honey—as long as he can not follow the bee up, and he is not a chemist himself.

Mr. Moore—I do not think in his dissertation that Mr. Abbott quite covered this case fully. You must go back to the origin. Honey is the nectar of flowers gathered by the bees and stored in the combs. I believe that is where they start. But in order to protect an innocent party whose bees might have gone to the leaves of trees and gotten honey-dew and mixed a small amount with the honey, this small amount is allowed. But I think that there will be no trouble about this matter in the minds of any one who acts in good faith. Honey-dew tastes different, and the only trouble comes if you sell honey-dew and label it honey. You can sell all the honey-dew you please and label it honey-dew, or you can say, "Honey with a small amount of honey-dew;" and if you, as experts—bee-keepers, honey-dealers, if you please—can not tell the difference between honey-dew and honey, if you do not distinguish anything about it, don't you believe that your customers will. If you conscientiously taste that honey and decide that it is all right, your customers will be pleased with it. You won't have any trouble along that line. This law is all right as it stands, for one who inadvertently has a small amount of honey-dew in his honey, but not so as

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to be distinguished by the taste. I take it that that is the point of the whole matter. If it is so thin, if it is so disagreeable, if it is so strange, that any of us bee-keepers or honey-dealers can distinguish it by the taste, you must not sell it as honey. The labeling of this honey-dew as honey is the danger-point. If there is any question in your mind you must put a label on it, "Honey with Honey-Dew." It seems to me that the pure food law has a whole lot of effects. I am not so sure that it increases the sale of honey. I don't know but it increases skepticism. When you call on wholesale grocers they say, "Is that pure honey?" and even about comb honey, "Your honey is pure, is it?" If you have honey-dew, I would advocate labeling it honey-dew, or not selling it. Sell it if you can, of course, but don't label it as edible honey.

Mr. Wheeler—I think this is a vital point. I have something right in mind that bears on that point very closely too. There is a town near Chicago that I watched closely this summer and the trees were just covered—once in June and once in August—with this honey-dew. It was on the leaves of the maples, and the bees worked on that, morning, noon and night; all day they stored that, and I know of a person that is putting the honey up and selling it. He is a *bona-fide* bee--keeper, and undoubtedly he thinks that the honey is clover honey. I will wager any amount of money that that honey hasn't a particle of clover honey in it. I think those bees gathered that honey entirely from the leaves of the soft maple. I tasted it and it is not bad honey at all. It is dark. I was in a town this year where there was no clover honey or anything else except that secretion off the trees, and this man put that up and put it on the market. It makes a very passable honey. It is not as light as some, has a peculiar taste to me, because I have tasted a good deal; but supposing that honey is tested, I would wager that 97 percent of it would not pass the test. What is the man going to do? He put it up in good faith, put it on the market in good faith. It suits his trade. He is selling quite a lot. We bee-keepers ought not to favor a law of that kind. Supposing it is flavored a little with basswood and so on. You can't tell. People's tastes fool them. It seems to me it is favoring something we ought not to favor as a convention or as a lot of bee-keepers.

Dr. Miller—Just one point that Mr. Wheeler raises: If we look at the law of the State of Illinois, the honey definition is "material that the bees gather from plants." That will cover honey-dew. You will not get into any trouble with the amount of honey-dew you get in your honey, without specifying the amount, and I do not believe there is much trouble about adulteration. I take the ground Mrs. Glessner does. What the bees do without any adulteration on the part of man would not be called adulteration. There, of course, might be such a thing as their getting something that is not fit. I have tasted here in Chicago honey taken from the nectar of plants that I considered much worse than any honey-dew. I do not remember now what it was from, but it produced the effect on the mouth that eating Indian turnip does. The question before us is whether this law is a benefit to us or not. A fundamental question upon which that rests is, Did the putting on the market of all this adulterated stuff hurt us as bee-keepers? I think we have pretty well settled that Karo corn syrup, and corn syrup of all sorts, was a damage to us; and when it has come that they must put on the label that it is so much glucose—you don't see it printed glucose, because the people would not stand glucose, but they will stand "corn syrup"—but if on the label there is such a percent corn syrup, the people won't take that. But I would give more for five words of testimony from a man like Mr. Arnd, who knows what has been done, than for all the theories.

Mr. Arnd—In selling honey to the grocery trade, especially to the wholesale grocery trade, we are compelled to sign an agreement that the honey that we sell to them, that we bottle, is put up according to the pure food law. How are we dealers going to protect ourselves so that we can sign these agreements without testing? Don't you think that the bee-keepers that supply us with the honey ought to furnish us with the same agreement, that the honey that they send to us will stand the pure-food test, and so right along the line, so that the dealers, grocery men, the retail men, and every one all along the line, can go back to the original bee-keeper if there is any trouble? I think the dealers ought to have some protection, because we have to sign an agreement that the honey that we furnish the wholesale grocery houses is up to the pure food test, and they have to furnish the same thing to the retail grocery trade.

Dr. Bohrer—I wrote the question, and what induced me to write it was, there has been quite an effort among bee-keepers (and I feel a deep interest myself in it) as to how to dispose of our product, and I have become convinced that one thing that caused slow sale of honey was that the people were suspicious that both comb and extracted honey were impure, and were an artificial product. All the advertising that the bee-keepers have been able to do up to the present time has been ineffectual. An organization sprang into existence in this city, I think it was, and some money was paid in. I did not take stock in it, did not become a member, for the reason that I was not an extensive producer of honey, having but few colonies; yet I felt an interest in the matter, and hoped that something would come of it; but I will be honest, I did not have any faith in any good results growing out of it. I then believed, and I believe now, that what the people wanted was a pure food law, and when the people understand that no man dare to put a label "Pure Honey" upon any package, and put it upon the market and sell it, when it is other than pure honey—that, I think, will undoubtedly increase the sale of both comb and extracted honey. The people today believe that 4-5 of everything that goes on to the market in the shape of honey is bogus; that it is adulterated; that glucose is largely fed to bees, and that they store it in the combs. No longer ago than last winter at our State bee-keepers' convention in Kansas, I offered $500 to any man who would bring 2 sections of comb honey that was made of artificial comb and filled with artificial honey. One man said he had it at home, and brought in 2 sections. I appointed a committee immediately, being President, and I asked him to aid me in the selection of the committee, so that no injustice should be done and that he would get his $500. The committee said: "These two sections are not alike at all, and if they were manufacured by a machine they would be just alike; they would have to be." Well, he thought they were both artificial, but one had been made by one set of molds and the other in another set! Then the question naturally arose, How many molds would have to be obtained in order to make each section different? It can't be done. It is an impossibility. When the people come to understand this law, they will say: "Here, it is more than any man dare do to combine glucose with honey, perhaps put ¼ honey or 1-5 honey and the balance glucose, and label it honey and put it on the market." If he labels it honey and glucose, then that is another matter; but people want pure honey, both comb and extracted. These side-issues and questions as to what the Government may ultimately define as honey and a legitimate article to put on the market, are not fully determined, but when people learn the effect of this law, that glucose cannot enter into a package of honey, whether comb honey or put up in sealed packages, buckets, jars or anything; that they can buy honey and know it is honey; that there will be a United States officer to test it, and if it is not pure, the man's brand being on the package lays him liable to arrest and prosecution, you will find that the men who have been counterfeiting honey heretofore will not want Uncle Sam to handle them, because he does it without gloves. I remember, a good many years ago, I think in 1871 or 1872, at the Michigan State bee-keepers' convention, a Mr. Perrine was at that convention and said that a great deal of honey was now being prepared and made salable by getting the bees' comb honey and putting it into a jar and then filling it up. He said it was not always honey. In your agricultural papers and in your country papers it says the sale of bogus honey is shut down on by Uncle Sam, that it is more than any man can do to put an impure preparation on the market and label it honey.

Mr. Taylor—What was the fact last year, Mr. Arnd, in regard to the crop of honey? Wasn't it all sold?

Mr. Arnd—Of course I don't know; but I think the honey was pretty much all sold.

Mr. Taylor—You understand it was pretty well cleared up before the present crop came on?

Mr. Arnd—I think so. Mr. Burnett could tell you more.

Mr. Taylor—How about this year? Will it be cleared up?

Mr. Arnd—I think so. I am not sure.

Mr. Taylor—How can the law help

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you if you sell it all any way?

Mr. Arnd—I don't handle all the honey there is.

Mr. Taylor—I am talking about the people who deal in honey. You are talking for the lot.

Mr. Arnd—I am talking of my own orders. If my orders come in faster this year than last I will sell more honey. Another thing, too, when orders come to you without your solicitation it shows it is being helped along.

Mr. Abbott—I want to suggest that the law could not do anything, for it is not in force until the first of January, and, besides, it has no relation to any honey except that which enters into interstate commerce. There is no pure food law in Missouri or in Kansas. I believe but few States have a pure food law corresponding with the National law, and you can adulterate all you please in the other States, provided you never send it out of them. Illinois has one, and it is the Illinois State law that is operating here, and every State in the Union ought to have one like the National law. Let us keep that in mind, and go home and besiege our legislatures, if we want it to benefit us, to make a law in accordance with the National law.

Dr. Miller—We can vote on it.

Pres. York—All who think the National law will be a benefit, raise your hands. All who think it is not a benefit raise your hands. It seems to be all one way; those who voted, any way. Practically all think the law will help. The law is not in effect yet, and probably will be amended if there are any weak points in it, after a while.

Remedy for Bee-Paralysis.

"What remedy, if any, have we for the disease known as bee-paralysis?"

Mr. Taylor—In my experience, a simple change of queens is all that is necessary.

Mr. Whitney—I asked that question. I had a colony of bees in June that developed what I supposed to be bee-paralysis; that is, they exhibited all the symptoms such as I have read about in the bee-papers; it was growing worse rapidly for about a week, and I thought it was being communicated to an adjoining colony, from the appearance of bees on the alighting-board. I got some sulphur and decided to experiment a little, even if I killed a colony of bees. I sprinkled sulphur all over the alighting-board, all over the bees, on the top-bars of the frames of both hives, and in 2 or 3 days I gave them another dose; inside of 6 or 8 days there was not a bit of the disease left. I did not know but what I had discovered something.

Dr. Miller—I have had paralysis among my bees; I painted my shop red and the disease disappeared. I do not know that there is any other disease, unless it be the disease of bee-stings, that has had so many remedies as bee-paralysis. One man says he has done so and so, and the disease disappeared. In this part of the country, as far north as this, I think it will generally disappear of itself, no matter what you do, or don't do; and I doubt very much whether anything in the way of medication or treatment will do any good, unless it be sulphur treatment. And I may say that is the only one that I have known of, that has been mentioned, that a number of people have not mentioned as having failed. I think so far no one has reported that the sulphur treatment has failed; but it is not original up in this part of the country. Mr. Poppleton, of Florida, is the one who has used the sulphur cure, and really I have a great deal of faith in it. I think so far no one has reported who has faithfully tried the sulphur cure and it has failed; and until some one tries that faithfully and says it is a failure I shall have some faith in the sulphur cure. I do not know anything else that has been reported but what has been a failure. A number have reported the change of queens and a cure resulting, but a number of others say that they changed queens and it did not cure.

Mr. Taylor—I had a colony that was very badly affected with paralysis. It was early in the season, and I got a queen from another colony and took out the queen that belonged to the affected colony and put in the new one. I put her in a cage, and soon after I did the exchanging a bee-keeper from the neighborhood called on me and wanted to know if I could not let him have a queen. I told him that I hadn't any queens to spare, but I had just taken one out of a hive that I did not consider of any value, and if he wanted to take her and try her he might. Accordingly he took her. In 3 or 4 weeks he was back again, and I inquired how the queen had done, and he said that the young bees were shaking terribly, while mine were steady and all right. I thought that was pretty good proof, at least in that case, that the changing of the queen had completed a cure, and that the difficulty was with the queen.

Mr. Wilcox—Transferred the disease, you mean?

Mr. Taylor—Transferred the disease to another colony.

Mr. Whitney—Doesn't that prove that the sulphur remedy is of value?

Mr. Taylor—I do not think it has any bearing on it.

Mr. Whitney—I did not change queens, but I gave them a dose of sulphur.

Mr. Taylor—I don't know what else happens in the hive. We guess too much about these things.

Mr. Hobble—I have one or two colonies every year that have what I suppose to be paralysis, and when I had the first one I knew nothing about treating them in any way, and I gave them a good dose of salty water. They got well all right. I have continued that from that time to this, and I have never lost a colony, and they have always come out all right.

Mr. Kimmey—How do you administer the dose?

Mr. Hobble—I put the salty water in a little pepper-box; take the hive cover off, and then shake it all over the hive, letting it run right down over the frames.

Pres. York—You sprinkle or spray it on the frames and bees.

Mr. Hobble—I have never lost a colony yet, and they always got well in the course of about a week.

Election of Officers.

After an intermission, election of officers was taken up, and resulted as follows: President, George W. York; Vice-President, Miss Emma M. Wilson; of Marengo, Ill.; and Secretary-Treasurer, Herman F. Moore, of Park Ridge, Ill.

Pres. York—I hope every person who is here now will remain for the evening session. We have invited some singers, and expect to have quite a little musical program to begin with, both instrumental and vocal.

In accordance with what had been the custom for several year, Secretary Moore was allowed $20 for the past year for his services.

Age of Larvae for Queen-Rearing.

"What is the age of larvæ chosen by a queenless colony from which to rear queens?"

Mr. Taylor—My answer probably would not be agreeable to all. My experience is that they use larvæ from 2 to 5 days old. I used sometimes to experiment in rearing queens, and of course in those days I was very curious, and observed closely with regard to what they did choose—what sort of larvæ they did use for rearing the queens—and I found that they chose larvæ of different sizes, so much so that I was in the habit, when I wanted queens from those reared in that fashion, of looking through the hives in the course of 5 or 6 days after the colony was made queenless, and examining the cells and removing from the cells those larvæ which appeared to be too large. I found proof of that fact in the time required for the hatching of the queens. The queens with me begin to emerge in 10 days from the time the colony is made queenless. If the bees chose larvæ two days old it would not be possible for the queens to emerge in 10 days. It would take at least a day or two longer, because until the larvæ are chosen for the purpose of rearing queens, their progress is slower. It takes a worker to mature say 20 percent or more longer than it does a queen, so that the larva of a queen would have advanced as far in 5 days as a worker in 4 days; so I will say that the choosing of a larva first devoted to the rearing of a worker must take a little longer than one devoted from the first to the purpose of rearig a queen. Dr. Miller will not agree with me. He made an experiment several years ago—and I wish I had it here—quite an extensive experiment on that very point, to prove, as he claimed, that the bees never choose larvæ that were more than 3 days old. But as I looked at his experiment, which was very elaborate, and which was thoroughly discussed both by himself and myself, I thought the experiment showed conclusively that larvæ more than 3 days old were chosen. Of course now, after the lapse of time, I can not enter into the particulars, but that has been my experience.

Dr. Miller—I do not understand part

of what Mr. Taylor said, that the relative worker and queen time is 4 days and 5. I don't know what that means, but I do know that he says that he had queens emerge 10 days after the time that the bees selected the larvæ. Do I understand that, Mr. Taylor?

Mr. Taylor—After they were made queenless.

Dr. Miller—Now if they chose the larva immediately upon being made queenless—I do not think they do; I think they must take a little time, but they do not take a great deal of time to find out that they are queenless; but if they do, there is 10 days that is taken from the time. I don't know how many days Mr. Taylor will say that the queen takes from the time of the laying of the egg.

Mr. Taylor—It varies from 15 to 17 days.

Dr. Miller—It was 17 days when I was a boy; it was 16 days some 20 years later, and now the latest authority gives it 15, although it varies, as Mr. Taylor says. I think 15 is what Mr. Cowan says. I saw that very thing last week in the British Bee Journal. Take 10 from 15 leaves 5; and take 3 days in the egg state, leaves us 2 days for the larva state. But I don't think it will figure down as close as that. Now I will give you some experiences on that same line: For a number of years I have been rearing queens by allowing a colony of best stock to start a frame of brood, and then I would take that frame having eggs and larvæ of all ages up to that which is nearly ready to be sealed over, or perhaps ready to be sealed over, and put it into a colony which I had made queenless. I reared hundreds of queens in that way, and I never had one of them emerge until 12 days after the colony was made queenless and that frame put in there. That is the way it is in my locality, and that same rule holds over in Germany, I find by the authorities over there. In cases where bees are allowed to select for themselves the larvæ they want, they in every case select what will be 12 days in hatching out. I don't know just how Mr. Taylor's and my experience have been so different. One thing I think has helped to create the impression that the bees select larvæ too old: Make a colony queenless, and if you just take the pains to lift out a frame and look at it— Mr. Hutchinson says that the bees will select larvæ too old. I will ask him to say what they do nowadays. Bees have improved. They may have done other things when he was young, but what do they do nowadays? Have you tried that, Mr. Hutchinson?

Mr. Hutchinson—No; I have been too busy.

Dr. Miller—You will always be too busy.

Mr. Hutchinson—I tried it years ago.

Dr. Miller—They didn't do it years ago.

Mr. Hutchinson—They did just the same with you years ago.

Dr. Miller—You refer to the first volume of the American Bee Journal, and you will find that the time for rearing a queen is 17 days. Now it is 15 days.

Mr. Hutchinson—Not always.

Dr. Miller—To go back: I said to make a colony queenless, and lift out the frame and look at the size of the larvæ—and I don't believe there is a man here, or woman either, that would say that the larvæ were older than 2 days, if they are at all familiar with the size of larvæ at certain ages; let that colony go on for a week or so, and they are not satisfied with the queens they start; they will keep on starting them, and after the time comes that there are no larvæ young enough to make proper queens they will still keep on starting, and will then start queens from larvæ that are too old.

Mr. Taylor—That is all I claim. [Laughter].

Dr. Miller—Will you put in words what you claim?

Mr. Taylor—I claim simply that they do not always use larvæ young enough.

Dr. Miller—Then we are exactly together.

Mr. Taylor.—Yes.

Dr. Miller—They don't always, because they don't always have the stuff before them. When they have their choice of the right and wrong kind of material they will always use the young, never the old.

Mr. Taylor—That is not material at all. I have got the queens from too old larvæ. You admit that now.

Dr. Miller—No, not necessarily. If you take all the cells that they will start, old and young, then you will get some that are too old. Leave them to themselves to rear the queens and they will never have any that are wrong, because the ones they first start will mature ahead of the bad ones. But you meddle with it, and take out all the cells, and you will get the bad cells as well as the others. The point is this: Bees allowed to select, given free choice of brood of all ages, will never select a larva that is too old for a good queen; and if they did do that, then some of those should have matured and emerged before the period of 12 days, and they never do.

Mr. Hutchinson—When I take away a queen from a colony and leave the brood of all ages, I almost invariably get some poor queens; but if I allow all that brood in the hive to mature, and then give them a frame of just hatching brood—just put in a comb filled with eggs nearly all of the same age—I don't know that I ever got any poor queens. Where they had larvæ of different ages to choose from, sometimes they chose too sold larvæ, but when they had nothing except the young larvæ to choose from, had no larvæ that were too old, then the queens were always good. I have found in rearing thousands of queens that it is not safe to allow a colony more than 10 days for the hatching of the queen. If you wait more than 10 days, when you go to the hive you will quite likely find some of the larvæ hatched.

Mr. Taylor—It is so invariably in Michigan.

Mr. Wheeler—At one time I lived about 50 miles south of where Dr. Miller lives, and my experience was the same as in Michigan—10 days from the larva. It may be different now. I have not tried it for a few years.

Dr. Miller—I tried it last year.

Discriminating Against Certain Members for Officers.

"Should the constitution of any bee-keepers' association bar any of its members from holding an official position in the association?"

Mr. Taylor—Using the words of a noted author, "I don't know."

Mr. Wilcox—I do not think any of us know the constitutions of all the various bee-keepers' associations. That question was evidently asked in reference to some association other than this.

Pres. York—No. The question is: Should the constitution bar any of its members from holding an official position—should the constitution be made in that way?

Mr. Wilcox—Whoever wrote that question was thinking of some other association than this, probably the National.

Pres. York—Not necessarily.

Dr. Miller—He might be thinking of this association, whether the constitution ought ot to be changed in that way for this association. You can't tell what the questioner was thinking about. If you will allow me to say so, I think he was thinking of the National, and what was done at San Antonio.

Dr. Bohrer—I wrote the question, and I will tell you what I was getting at. I know there was proposed an amendment to the constitution of the National, to bar certain members of that Association from holding official positions because they were dealers in bee-keepers' supplies, or editors of bee-papers. There was an effort of that kind made, it is true, at San Antonio. I opposed it and declared then that if that kind of an amendment were added to the National Association I would not be a member of it any longer. I took the position, and Mr. Kimmey here took the same, and the constitution of the United States takes the same view of it, and all the States of the United States, that there is only one class of people barred from being eligible to the presidency of the United States, and that is foreign born; and the constitution of any organization must apply to all its members. If not, it is un-American and unjust. It places the members in a state of alienship before that association, and I was opposed to it, and I believe it is our duty to discuss that question here. I am a member of the Kansas State Bee-Keepers' Association—President of that organization—and a member of the National, and I do not want an amendment so un-American as that, and so unjust as that, to become a part of the organic law of our National organization or of any State organization. I took the broad stand, and made the sweeping declaration, and I repeat it, that if it became a part of our organic law I would not be a member of the organization any longer. While it may not be at all times policy upon the part of the members of the organization to elect a dealer in bee-supplies to an official position in that organization, it is simply the duty of every individual

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member, if he does not want a man to serve in an official position, to vote against him, and so get rid of him; but place the membership on a common equality before the law, and if the members for any cause see proper to elect a man that is a dealer in bee-keepers' supplies, they have a right to do so. If they find when they put him in office that he warps and twists his position for selfish purposes, they do not have to re-elect him; but know how to "sit down" on him in the future. Some of the best and most worthy members of the bee-keepers' associations in the United States have certainly been dealers in bee-keepers' supplies. Among them was the great Langstroth himself. A purer-minded man never lived, in my opinion. I speak from having known personally the man, having been in his apiary and talked with him on different topics, and he was a pure-minded man, first, last and all the time. He never would accept an office. I do not believe he was ever an officer. He may have presided at one meeting in Cincinnati, but it was against his inclination and his will. An amendment of that kind would bar the great Langstroth. Our worthy friend Dadant (I give him all praise that is due him; I would not take a laurel from his brow) seemed to favor an amendment of that kind to our constitution, stating that some of our Eastern bee-keepers, notably the State associations of Pennsylvania and New York, would withdraw from the National if it did not become a part of the organic law of that Association. I do not believe that the bee-keepers of New York and Pennsylvania feel that way; and I do not believe, if they are fairly dealt with, and that question is fairly discussed before them, that they will vote in favor of that kind of an amendment to the constitution. I hope they will take the broad view of it, that all the members are on a common ground. If you do not want a man who deals in supplies to be an officer, do not elect him; and any other person who is not fit for the position—sit down on him likewise. It is our duty as American citizens, and members of a growing institution, to select the very best men and women that we have for our official positions—persons who have energy, and will put some push and life into the pursuit in which they are engaged and that which they represent. If I were the Secretary of the National Bee-Keepers' Association I would feel it a duty to push the interests of the Association everywhere possible; and if I were President I should do the same thing; but I am not electioneering. I would not have an office in the Association.

Mr. France—I want to say just a word of explanation to Dr. Bohrer, and for the benefit of some others, as I was at the San Antonio convention. The disturbance in the East is a good deal like some church choirs that I have been in before now. Some wanted to be heard, and because they couldn't be heard just as they wanted to, they made a little disturbance; but the choir kept right on singing; and since the San Antonio meeting, 88 from New York State, and 104 from Pennsylvania , have voted, and sent their dues direct to the National. [Applause]. And in the election of the National officers, of which I have received returns it is quite nicely divided up—the election of Mr. L. A. Aspinwall, for President; Vice-President, Geo. E. Hilton; Secretary, Jas. A. Green; General Manager, N. E. France; Directors, G. M. Doolittle, Jas. A. Stone and R. A. Holekamp. You will notice if you are going to draw the line on bee-supply men, the majority of these have handled supplies, more or less.

Pres. York—Mr. Aspinwall and Mr. Hilton are from Michigan; Mr. Green is from Colorado; Mr.France from Wisconsin; Mr. Stone from Illinois; Mr. Doolittle from New York; and Mr. Holekamp from Missouri.

Dr. Bohrer—If they don't supply anything else, they supply honey.

Mr. Abbott—There has been a good deal of agitation, and a good deal said in certain bee-papers concerning various fraudulent dealers. There are only 6 or 8 bee-supply manufacturing establishments in the United States, and probably 300 or 400 bee-supply dealers. I think these gentlemen who make such charges owe it to the bee-keepers as a whole to mention names. If Mr. Root is a fraud we ought to know it. We all know him pretty well, and we don't think you can tell us anything new about him. If Mr. Lewis is a fraud we ought to know it. If the Falconer Manufacturing Company is a fraud we ought to know it, and so on around. We know them personally, and think they are all right. We think they are honest. We think they are honorable. We think they are engaged in an honorable, conservative, upright business, offering wares that the bee-keepers seem to want, for they are making their factories bigger and bigger all the time every year, and if it were not for the support of the bee-keepers of the United States they could not afford to do it. Now, if it is a crime to furnish people something they want, why, then, these people ought to be ostracized and excluded from associating with bee-keepers. If it is not a crime, let us stop all this nonsense about classes. The more we talk about classes, the more we divide humanity up into classes; the more we magnify the differences, the more strife and contention we make. I know a few of those New Yorkers will leave the National Association, but it reminds me of a remark that Ralph Waldo Emerson made once when an Adventist was talking with him very earnestly and enthusiastically to convince him that his philosophy was wrong, and that the world would surely come to an end. Emerson in his quiet, quaint way—and if you ever saw him you know he was very quiet and very mild-spoken—smiled, and said, "Well, what if it does? It won't trouble me very much. Somehow I think I can get along without it." Somehow I think the National Association can get along without about a half a dozen of those fellows, and if they do not want to come in, why, the world is as big outside as it is inside—let them stay out. It seems from the report of Mr. France that the majority of them want to come in. There are only a few of them in New York, and if they can get along without the National Association, and would rather not be in it, the National Association isn't going to die to accommodate them. It is going to live right on, and not stop breathing.

Dr. Miller—It is not because these men are rascals, as mentioned by Mr. Abbott—it is not necessary to take any such view as that. The resolution, if I remember rightly, was that supply-manufacturers, supply-dealers, editors and department editors, should not be allowed to hold office; they are to be allowed membership. You will perhaps see the reason for that is that these supply manufacturers and supply-dealers are working in antagonism to bee-keepers; they are getting their money! And so are the editors, and so they should not be allowed to have office; and the department editors are aiding them, and on that account they should not be allowed to hold office; and those who assist them—the members in helping to get subscriptions for these papers are aiding these same editors—they should not be allowed to hold office; and the men who subscribe for those papers are helping the editors, and they should not be allowed to hold office. Well, I don't know just how far that thing is going. [Laughter].

Dr. Bohrer—Doctor, I suggest one more alteration or amendment to the suggested change in the constitution—that they include everybody that purchases or handles bees and honey, and then they would have the thing just right.

(Continued next week.)

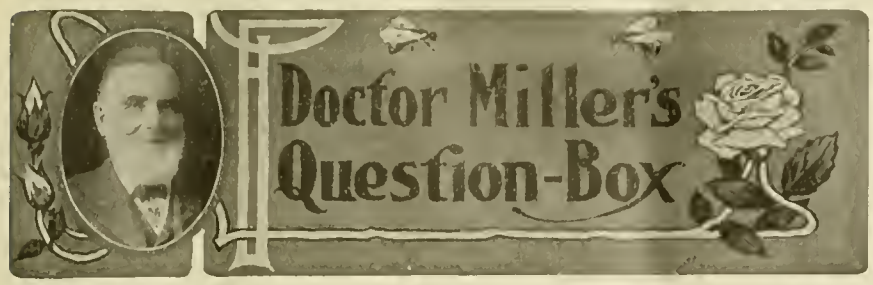
Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Getting New Subscribers for the Bee Journal is something that almost any reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

American Bee Journal



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Comb Probably Not Diseased

The pieces of comb I am sending you were taken from a colony of bees that died during the warm spring weather that we had here in March. Three out of five colonies died within a few days of each other. All had an abundance of stores. The frame from which this was cut had considerable honey. Any information you can give me will be appreciated.
NEBRASKA.

ANSWER.—I'm not an expert in brood-diseases, and I'm not the one to whom to send samples, but I *think* there is no disease in your case. The number of dead bees in the comb makes it pretty certainly a simple case of starvation, even although there may have been plenty of honey in the hive. See answer to "New York." If you want to make sure in any case of suspected disease, send sample to General Manager N. E. France, Platteville, Wis., provided you are a member of the National Association. If not, it will cost only a dollar to become a member.

Transferring Bees—Baiting Wild Bees

1. I have subscribed for the American Bee Journal and like it very much. I am thinking of going into the bee-business on a small scale at first. I have 2 colonies in box-hives. They have not swarmed yet. I bought 2 patent hives quite awhile ago, but never have been able to get them home. I wanted to transfer my bees into the patent hives. Is it too late now? I have been trying to buy a few colonies here, but can not. As there are a good many wild bees here, I thought probably I might find some trees and save the bees. That is the way I got those I have.

2. Is there any kind of bait for wild bees? I have tried honey, but they will not touch it.
TEXAS.

ANSWERS.—1. It is perhaps just as well, and many prefer, to do no transferring before swarming. When a colony swarms, hive the swarm in a movable-frame hive, and 21 days later transfer the contents of the old hive.

2. Some scent the thinned honey with essence or oil of anise; others make a smudge by burning old comb, the smell of which attracts the bees, and helps them to find the honey present.

No need to send stamp for reply. As a subscriber to this paper you are entitled to have answered in this department all the questions you like, free of all charge; and questions are not answered by mail.

Keeping Bees Out of the House

I am a subscriber to the American Bee Journal and appreciate it very highly. I have 20 colonies of bees, and I wish an answer to a question which, to my mind, is a "corker."

For 2 years my bees have insisted on coming into the house, hovering over the roof day after day, and working themselves into the house in different parts. The windows are well screened, but that does not stop them. Last year I reshingled, thinking there might be some crevices in the roof through which they might come. I carefully puttied up every crack where I thought a bee could come in, but all to no purpose. To-day is the first day that has been warm since I brought them from winter quarters, and the roof is covered like a swarm. They tried to get into the chimneys, but a little fire stopped that. Now, if you can tell me any way to stop that I will be happy, *because my wife has cleaned house!*
IOWA.

ANSWER.—Well, that is a "corker," for sure. Makes me feel discouraged. Just when I begin to think I do know a little something about bees, along comes some one like you with a question to which I can find no answer in the whole pile of answers I've been laying up for years. What under the sun should induce your bees to take on that particular form of insanity is beyond me. If it were later in the season, I might make a bluff at an answer by saying the bees on the roof were scouts finding a place for a swarm to enter; but that answer won't fit when they first leave winter quarters. If any one else wants to answer he may; I'm not going to. Won't even try to puzzle over it, for I don't want to go as crazy as your bees. Sorry for your wife, though.

Starved Bees—Foul Brood

I bought 2 colonies of bees about the middle of March. During peach-bloom in this section I set them in the north edge of a 75-acre peach-orchard. They began to work to "beat the Dutch." They were rather light of stores when I bought them, but as fruit-bloom was plentiful, I thought they would make it all right. Then with the disappearance of fruit-bloom came cool, rainy weather which lasted about 3 weeks. In the meantime a great deal of brood had been hatched out, consuming all the stores. They began to dwindle and the bees died by the hundred. As soon as I discovered what the trouble was, I lifted the frames and brushed the bees away, and poured warm sugar syrup along next to the top-bar of every frame, Before I did this, the bees were crawling around all over the ground and could not fly (like "Indiana," page 395). Perhaps if "Indiana" had fed 1½ barrels more of sugar during the warm spell in March, he would not have lost 13 colonies of his bees.

My bees are doing fine now, and storing in the super from white clover in one colony. The other I have divided for increase, having ordered one tested golden queen, and I think I got a 3-band. I make my own hives with dovetailed corners, which makes the most substantial hive I ever saw. One bee-keeper who saw my hives, said: "They are nice; but that is work." So it is, but I think it is the best in the long run.

Where can I get the book, "Foul Brood and Its Causes?" I have seen many questions in regard to cause of foul brood, but have never seen a satisfactory answer.
ARKANSAS.

ANSWERS.—1. You were wise in looking out for starvation. There is many a case of starvation that is not suspected. Beginners do not realize how rapidly stores disappear when brood-rearing is going on rapidly. There's probably many a case of starving even when white clover is in full bloom. Plenty of bloom, but the bees are getting nothing from it; first the beginner notices is that the bees are dragging out the sucked-out skins of the larvæ, and he wonders what disease has attacked his bees, when it's a plain case of starvation.

2. I think the U. S. Department of Agriculture has issued the pamphlet about foul brood you inquire about. As to the cause of foul brood, for years the answer has been that it is Bacillus alvei, but of late that is disputed by some and asserted by others. Let us hope the question will be definitely settled before long. In actual practise, however, exact knowledge as to the real culprit will hardly make any difference. The McEvoy treatment is the same whatever the cause.

Wonderful Spring—Early Drones—Killing Off Drones

1. This has been a wonderful spring. The weather during March was so warm that bees were out and hard at work nearly every day. Fruit-bloom of all kinds came out and bees were almost frantic in their effort to gather the rich harvest contained therein. But spring had not really come, as about April 1 the weather changed, and kept steadily cold all through the month; only an occasional warm day when the bees could come out. But the bloom and blossoms were all killed as it had been as cold as 26 degrees above zero, and froze ice regularly nearly every night, and is still cold at night; froze some 2 nights ago. I have been feeding my bees of late, and they appear unusually strong in numbers, and are working some on dandelion blossoms. Is it not unusual for drones to appear this early in the season? Some of my colonies have had as many as at any time in July or August, and have had for 2 or 3 weeks. Every warm day they are out flying thiek and the bees have been killing them.

2. Is it necessary to kill them off? How should I go about it?
KANSAS.

ANSWERS.—1. A drone may be seen here and there occasionally at any time of the year, but it is unusual to see them in appreciable numbers as early as during dandelion blossoms. The same thing occurs here this year. Is it not because the unusual warm weather in March caused the queens to lay in drone-cells?

2. Unless in very great numbers, it's hardly worth while to do anything about killing them. If you think best you can put drone-traps at the entrances.

No Disease—Probably Starvation

To learn apiculture evidently takes time and experience. Some time ago I found one hive robbed of all the honey. The bees had also departed. An examination of all the frames revealed no sign of eggs or brood. On one comb I found cells with what I call "dead brood." I send you a sample. What do you think of it? Do you think it was a queenless colony? I have read about foul brood and pickled brood, but never saw a case of the disease. To a beginner it is very confusing to read so many different opinions, theories and practices in bee-culture. But I suppose after a few years' experience, even the timid novice will get the necessary confidence in this pleasant hobby. What shall I do with the combs?
NEW YORK.

ANSWER.—My good friend, your eyes or your spectacles are not so good as mine. You say no eggs were present. In the sample of comb you sent me there were at least 2 dozen. You are quite right in saying there was dead brood, and all of it was sealed. No appear-

American Bee Journal

Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant. Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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3-Banded, Red Clover, and 5-Banded Goldens.

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Only $2.50, f.o.b. Chicago, by Express. Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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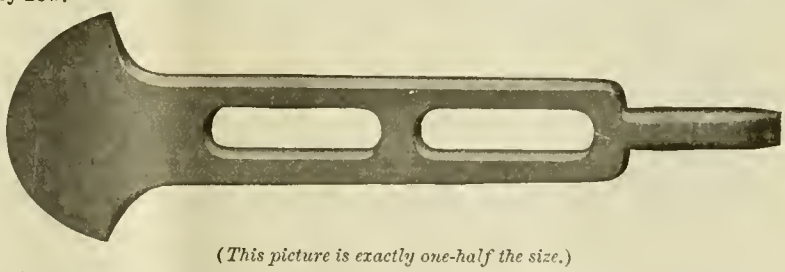
Best Hive-Tool



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Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

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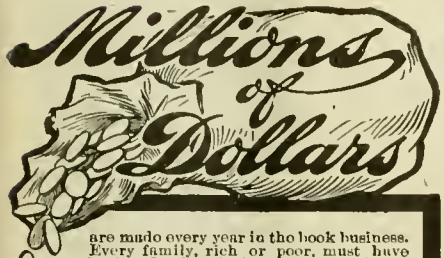
Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each occupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.



are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

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Address your letter to me personally, like this—

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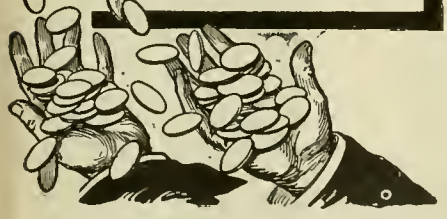

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PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

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We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50	4 inch stove
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Conqueror—right for most apiaries	1.00	3 "
Large—lasts longer than any other	.90	2½ "
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The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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Hives, Sections, Comb Foundation, Smokers, etc. Best of goods, reasonable prices, and a "square deal." Send for free catalog.

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Simplex Bee-Hive —The plainest, the cheapest, most durable, perfect, efficient implement. Constructed without boards. Any one can manufacture it. License of U. S. Patent granted. Address,
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ITALIAN QUEENS

That are bred from the best stock this country can produce. Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2-frame nuclei with Young Queen afer June 1, $2.00. GEO. W. BARNES.
15A26t Box 340. Norwalk, Ohio.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders **NOW.**

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4.00
Tested	$1.00	" "	5.00
Selected tested	1.25	"	
Two-frame nuclei with untested queen			2.00

Orders filled in rotation. Send orders to

E. A. SIMMONS, Greenville, Ala.
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HE IS NEAR YOU

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Over a score of distributing houses for the famous LEWIS BEEWARE are scattered over the earth.

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Offices, Factories and Warehouses,

WATERTOWN, WIS., U.S.A.

Established 30 Years.

Annual Output Twenty Million Sections
One Hundred Thousand Hives

A GREAT IMPROVEMENT

Will be found in

The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.

Dept. B. JAMESTOWN, N. Y.

[Established 25 years.]

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Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as almost all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will SAVE MONEY BUYING FROM ME.

Satisfaction Guaranteed.

Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 9.—Very little honey on the market of any kind. Prices are therefore nominal. A little choice white clover comb sold at 17c, and would bring that at present, but supply seems to be exhausted; even with this scarcity there is no demand for No. 2 grades. Extracted, white, 7@8c; amber, 6@7c. Beeswax in good demand at 32c. R. A. BURNETT & Co.

CINCINNATI, May 23.—There is no material change in the honey market at this writing. Extracted honey is not moving so rapidly as it could, owing to the cool weather. We quote amber in barrels at 5½@6½c; fancy table honey in crates of two 60-pound cans at 8@9c. For choice, yellow beeswax, free from dirt, we are paying 31c cash, delivered here.

THE FRED W. MUTH CO.

PHILADELPHIA, May 25.—The honey market has been quite brisk for this time of the year. The continued cold weather has made both the comb and extracted honey sell much higher than usual. A number of odd lots have been cleaned out of the market. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm at 32c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 21.—White comb honey is practically cleaned up, and there is very little demand at this time. There is some dark and mixed comb on the market, but no demand to speak of, and some of this will have to be carried over until next season, or sold at a sacrifice. Therefore we cannot encourage shipments of off-grades or dark honey at this time. Extracted honey is in fair demand and prices are ruling firm. There is very little new crop arriving as yet from the South, and while it is rather early, we doubt whether we will have any large shipments from the Southern States this season, as we fear there will be a short crop, judging from the reports we are receiving. There is quite a good stock of last year's crop still on the market, sufficient to last until the new crop from various states arrives. There is no change in price as to extracted honey since our last. Beeswax firm and likely to remain so for the next 2 months.

HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted boney bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.

WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.

THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, May 4.—Receipts of comb and extracted honey are light; in fact, the market is almost bare. The demand for comb honey is good, but for extracted is rather light. We quote: No. 1 white comb, 24 sections, $3.25; No. 2, $2.75; No. 2 amber, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 50c.

C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, May 21.—The market on fancy white comb honey is entirely bare. No. 2 is selling slowly at 12c. Extracted, light amber, brings 5½@6c. Beeswax is selling here at $35 per 100 pounds. C. H. W. WEBER.

HONEY AND BEESWAX

When consigning, buying or selling, consult

R. A. BURNETT & CO.

199 SOUTH WATER ST. CHICAGO, ILL.

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to

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—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

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We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

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Wherever you are you can get our goods. Write us and we will either make you prices or will tell you where you can get our Foundation nearer to you. We have Agents everywhere.

BEE-SUPPLIES

We handle every kind of Bee-Keepers' Supplies, and only the **very best.** Write us before selling your Beeswax or buying your season's Supplies. **Send for our Catalog.**

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Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

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KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.

NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.

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OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland.
J. Gobeli, Glenwood.

47th Year June 6, 1907 Number 23

AMERICAN BEE JOURNAL

Allen Latham,
President
Connecticut
Bee-Keepers'
Association

J. Arthur Smith
Secretary
Connecticut
Bee-Keepers'
Association

(*See page 487*)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

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Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Msnager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

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are just the thing.

We send them by Return Mail

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AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

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AND SAVE MONEY

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We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

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Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. **"Everybody's Paint Book,"** written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do **their own painting.** It gives practical lessons in plain painting, **varnishing, polishing, staining, paper hanging, kalsomining, etc.**

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Why do thousands of bee-keepers prefer it to otoer makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next aeason for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

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ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3 banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen afer June 1, $2.00 GEO. W. BARNES.
15A26t Box 340. Norwalk, Ohio.

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QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested.....	60c	each; six,	$3.50
Selected untested.....	75c	" "	4.00
Tested.....	$1.00	" "	5.00
Selected tested.....	1.25	"	
Two-frame nuclei with untested queen..	2.00		

Orders filled in rotation. Send orders to

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PURE ITALIAN BEES FOR SALE

Full colonies, in up-to-date hives; Nuclei and choice Queens.

Hershiser Wax-Press and other Lewis Bee-Supplies. Good Goods and Prompt Shipment.

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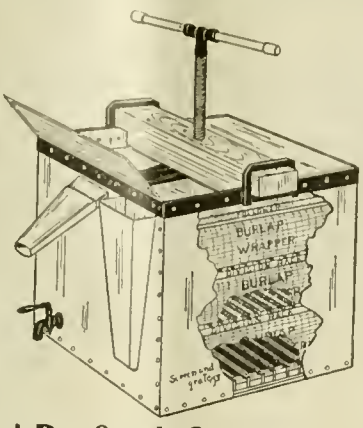
Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



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Our specialty is making Sections. All other goods up-to-date.

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H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

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"GOING SOME."

By the Bee-Crank

A writer in the Philadelphia Record says that a pound of honey represents the product of 62,000 clover blossoms, and that it requires 2,750,000 trips of the bee to collect it. If every round-trip averaged one and one-tenth miles, it would mean that in collecting it a single bee would travel 3,000,000 miles, or 120 times the distance.

These are good figures to bear in mind the next time you order supplies. They will help you to be patient while you are waiting for them—unless you order of Pouder, and then you won't need them.

Indianapolis is like a great bee-hive. It is a bee-line to Indianapolis and back again from every point in the country. The splendid shipping facilities here have had as much to do with my success in establishing a reputation for prompt shipments as my determination to do it has had. The next time you conclude that your supplies have started on a circuit of the earth to reach you, give me a trial.

I sell Root's goods at Root prices, and carry a full line of bee-supplies, which are told about in my catalog that you have for the asking.

Send me your beeswax and I will pay you the best market rates for it.

TACOMA, WASH.

WALTER S. POUDER, Indianapolis, Ind.
Dear Sir:—The Pouder Honey-Jars just received. Not a broken jar in the lot. Truly Yours,
G. D. LITTOOY.

Walter S. Pouder **513-515 Massachusetts Avenue INDIANAPOLIS, INDIANA**

Trade Notes
The A. I. Root Company, Medina, Ohio

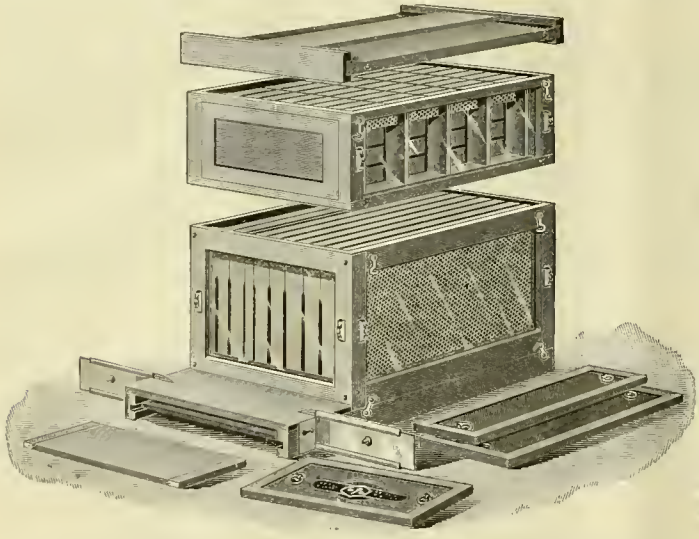
ROOT OBSERVATION HIVE

In recent years there has been an ever-increasing interest in bees as a subject for nature study in the schools, and a corresponding demand for observation hives to facilitate the study of bees at work, without exposing the student directly to them, as is necessary with ordinary hives. To meet this demand we offer several styles and sizes of observation hives. These are made with skeleton frame, with glass in sides and ends of the brood-chamber, and in sides only of the super. Shutters are provided to cover the glass. These shutters have brass rings to handle them by and brass buttons to hold them in place. Brass hooks are also provided to hold the several sections of the hive together. The hives are finished in the natural wood, oiled and varnished, and altogether they are very attractive in appearance. We furnish them regularly in 8-frame, Langstroth depth. The super is fitted for the 4x5x1⅜ plain section. Hives are usually furnished put together and finished. We can supply material in the flat, but it is work for a cabinet-maker who understands his business to put them up, and we do not care to furnish them in flat unless you order one complete as a model.

Observation Hive Inside a Room with Entrance under the Raised Sash.

The bottom is no longer than the hive, and a covered extension is provided to lead the bees out-doors under the window-sash or other opening provided. In the full-sized hive a colony of bees can be kept by a window the year round, or for only a part of the season, as may be desired. The work of the hive, including the building of comb in the sections, can be watched at intervals without opening the hive or disturbing the bees. For work in the school-room before a class we recommend the one-frame hive. With the one-frame observation hive it is necessary to remove the frame of bees and put in a fresh one about once a week at least, for the best results. As a rule, arrangements may be made with a local bee-keeper to provide a frame of bees each Monday morning, returning at end of week.

We make one-frame observation hives for L. frames or for Danz. frames and a row of sections above, or the L. frame with a row of sections above. These are provided with a wood case to slip over to shut out the light when you are not watching the bees. We show this one-frame hive and the case in accompanying illustration. This consists of turned-wood corners with glass inserted in grooves in ends as well as the sides.

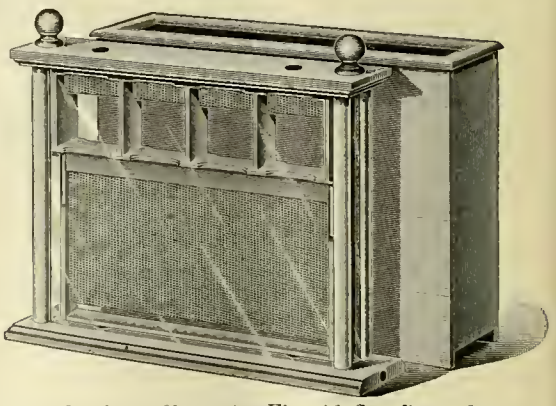


Observation Hive with Panels Removed.

PRICE-LIST OF OBSERVATION HIVES

Observation Hive (8-frame), complete with super, including frames, sections, glass—and bees with queen	$15.00
Observation Hive (8-frame), complete with super, including frames, sections, glass—no bees	7.50
Observation Hive (8-frame), without frames	7.00
" Super " complete, with sections	2.50
" Hive " without super	5.00
" Brood-chamber, complete, with frames—no cover or bottom	3.75
Observation brood-chamber without frames	3.25
One-frame Observation Hive for Danz. frame, no super, with case	2.50
One-frame Observation Hive for Hoffman L. frames, no super, with case	2.50
One-frame Observation Hive for Danz. frames, with super, with case	3.00
One-frame Observation Hive for Hoffman L. frames, with super, with case	3.00

(For bees and queen in one-frame hive, add $3.00.)



One-frame Observation Hive with Case Removed.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE 6, 1907 | Vol. XLVII—No. 23

Improvement of Bee-Stock

Considerable has been said in these columns in this regard, and more is likely to be said so long as the need is so urgent. Reenforcement of the views given may be found in an earnest article in the British Bee Journal, not written by any radical hot-head, but by that canny Scotchman, D. M. Macdonald. His closing paragraph contains the following summing up:

Now this I say without fear of contradiction: While we have men who rear so few queens that they have to keep customers waiting we shall never have selection! Every queen of every batch goes out, no matter what defects she may possess, if they are not over-patent. That it may not be supposed that I am a voice "crying in the wilderness" on this subject, I should like to quote a few authorities showing that improvement is urgently desired by others:

Mr. McEvoy, of Canada, says: "Ninety percent of the queens on the American Continent want killing."

Mr. Green considers "too much of our breeding has been done haphazard, and without any intelligent direction. My own experience with superior stock has been very disappointing."

Mr. Scholl's opinion regarding our queens is: "The best of them is none too good. Too little attention is given this subject, and if more were given better strains would be found than the run-down strains that are not yielding the profit that could be obtained."

Mr. Hutchinson's opinion is that "well-directed efforts at improving stock will prove the most profitable of any which a bee-keeper can pursue. The wonder is that it is so greatly neglected."

The American Bee Journal has again and again quite recently devoted short editorials to the subject of improvement of stock, and has emphsized the pressing need there is for securing better queens. It has even the gravest doubts whether the belauded "tested queens" really conform to the guarantee given by queen-breeders.

In addition to what I have quoted, a very large bulk of further evidence could be produced from both sides of the Atlantic, to show that the subject deserves the gravest consideration if bee-keeping is to take the prominent position which is its due.

Self-Spacing Frames—and Fairness

On page 349 appears a review of the Review's view of self-spacing frames. While thinking that the arguments in reply were the best possible in the case, Editor Hutchinson deems it unfair that the last paragraph of his article was utterly ignored, which paragraph reads as follows:

When it comes to the production of extracted honey, the frames with staples and projections, "excrescences," I call them, are simply not "in it." For several reasons it is better to space the combs wide apart in the supers, when the self-spacing arrangements come to naught. The same can't be said of them, however, when it comes to using the honey-knife.

Editor Hutchinson admits that he read the arguments through with just the shade of a twinkle in his eye as he wondered what would be said in reply to that last paragraph. Which is much the same as saying that in the said paragraph he felt he held an impregnable position, and was enjoying in advance the discomfiture of the enemy in attempting to attack it. Well, now, when a military commander comes up against something that he knows to be utterly impregnable, what is the use of his wasting good shot by firing at it? But that Mr. Hutchinson may not feel too much aggrieved at the neglect of his pet paragraph, it shall have, here and now, the benefit of the best shot in the locker.

First, it may be well to note the limitations of the argument. Evidently it can not apply in any way to that class of bee-keepers who produce comb honey exclusively; not such a very small class. Neither can it apply to the brood-chambers of those who never use brood-combs and extracting-combs interchangeably. Indeed, from the wording of the paragraph it was intended to apply only to those frames which, with "excrescences" which space them properly for the brood-chamber are still used in the extracting-super.

When thus used "the spacing arrangements come to naught." Correct; they are a negative quantity, doing no good, and equally doing no harm.

"The same can't be said of them, however, when it comes to using the honey-knife." Let us see about that. Self-spacing frames may be divided into two classes. The first class, as the Hoffman, has the projections for spacing on each side of the end-bar. Bees seal their combs with a space of ¼ inch or more between two opposing surfaces. Move the frames apart ¼ inch more than in the brood-chamber, and the comb will be flush with the projections. That would be spacing 1⅝ from center to center, and as "it is better to space the combs wide apart in the supers," 1⅝ is probably none too much. Indeed, it is less than many use. Even if the knife should occasionally strike a spacer, the knife would be little hurt by striking wood.

The second class embraces those which have a spacer that projects at one side of the end-bar, such as the Miller frame or those spaced with staples. To have such spacers on a level with the surface of the comb, the spacing must be 1⅜ from center to center. Even with such wide spacing, unless the bees built their combs with the utmost exactness, the knife would sometimes strike a spacer, and as spacers in this class are mostly of metal, there would be trouble. Even so, one need not despair, for self-spacing frames of the second class have the spacers at only one end on each side, and if one always begins with the knife at that end there ought to be little chance for trouble. Besides, if intended for extracting, spacers in this second class need not be such as will hurt the knife. Very satisfactory ones have been made of wood, and only lately C. S. Lord has brought out a spacer with a head of type-metal which should answer excellently.

There, Mr. Hutchinson, that is the best, the

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very best on hand in this locality to meet the case, and you will please remember that others besidea yourself may feel aggrieved if their best paragraphs are ignored; so we will look with interest, even if with no shade of a twinkle in the eye, to see what you will do with us in the near future.

British Bee-Keepers' Insurance

Details of this are given in the British Bee Journal. The British Bee-Keepers' Association has arranged with insurance companies to issue a policy to an intending insurer after he has seut to the Association "a premium of 2 cents per colony on the maximum number of colonies kept; minimum premium 1S cents."

The policy is to indemnify the owners of bee-hives insuring under the British Bee-Keepers' scheme against their liability to third parties for damages to persons or property occasioned by bees from the insured apiary outside such apiary, such claim in any one year not to exceed the sum of $150 in the aggregate, and not to include any claim for injury to the assured, or persons, or live stock under his control. The policy covers the period from March 25, 1907, to March 25, 1908, only.

National Convention at Harrisburg.—The Executive Committee of the National Bee-Keepers' Association has selected Harrisburg, Pa., as the place for the 1907 meeting. The exact date at this time has not yet been agreed upon. No doubt it will be settled very soon, when we will be pleased to make further announcement. We congratulate Pennsylvania bee-keepers, and all others of the East, on the decision of the committee to hold the next National convention at Harrisburg. It ought to be a well attended meeting, and doubtless will be.

"To Bee or Not to Bee?"

"To bee or not to bee?"—when that old fellow
Sprung that conundrum on us long ago,
He probably (when springtime should be mellow,
And all the earth with warmth and heat aglow)
Stood by his snowclad bee-hives wondering
If time had struck and there would be no spring,
As we this year in Michigan; and he,
Disgusted, wondered if it paid to Bee.

It is warmer now; maybe we'll get some honey yet. C. H. Benson.

Bellevue, Mich., May 18.

A World's Pure Food Show.—Chicago's first annual World's Pure Food Show, which will be held at the Coliseum, Nov. 19 to 25, 1907, has already enlisted the hearty support and co-operation of manufacturers and dealers in all parts of the country. The names of the members of the varioua commissions are a guaranty to exhibitors of the great commercial, industrial and educational value of the exposition.

Seventy-five awards will be made in as many classificationa. All of them will be granted under the direct supervision of the commissions, which are honorary bodies.

Enthusiasm over the exposition is widespread. For the first time in the history of food-product expositions, the exhibitor will be furnished with his booth. An elaborate scheme of decoration will be carried out. Running all around the building an aisle 15 feet wide will carry the main crowd of spectators. Along the outside of this aisle will be scenic reproductions of shops of all nations and time, making the aisle a veritable promenade of all nations. In the center of the building the booths will be uniform in design and color—a White City of pure foods and food products.

Managing Director Thos. T. Hoyne has already received hundreds of letters in regard to space and inquiring for information, diagram, etc.

The first allotment of space was not to be made to exhibitors before June 1. Owing to the fact that an enormous amount of space has been devoted to aisles—more than in any previous exposition at the Coliseum—the actual space to be sold for exhibition purposes seems ludicrously small in comparison with the floor area of the big building.

It is the purpose of the management to make the annual World's Pure Food Show the most attractive exposition held in Chicago, and with this idea plenty of space has been given up to handle a crowd of 20,000 spectators daily.

It seems to us this will be a fine opportunity for bee-keepers to make an exhibit of honey that would simply surprise the public. We do not now recall just where we saw it, but some one suggested that the National Bee-Keepers' Association would be the proper organization to take charge of the honey exhibit. Why not use some of the money received from the Honey-Producers' League, for the purpose mentioned? Surely, it would be good advertising for all bee-keepers, for this World's Pure Food Show will be advertised everywhere, and the various exhibits will be described and illustrated in countless numbers of papers and magazines.

Mr. N. E. France, of Platteville., Wis., General Manager of the National Bee-Keepers' Association, and also Inspector of Apiaries for Wisconsin, completed his 10th year as inspector, on May 28—about a week ago. Wisconsin bee-keepers are to be congratulated on their being able to retain Mr. France as inspector for so long a time.

Prof. A. J. Cook, of Claremont, Calif., made this office a brief call on Monday of last week, when on his way East to meet his wife and daughter on their way home from Germany, where they have been the past two years. The "Professor" is looking fine, and seems to be as youthful as ever, although he's around 65 years now.

Bread and Honey

Of all the meals you can buy for money,
Give me a meal of bread and honey!
A table of grass in the open air,
A green bank for an easy chair.
The table-cloth inwrought with flowers,
And a grasshopper clock to tick the hours.
Between the courses birds to sing
To many a hidden shining string.
And neither man nor maid be seen,
But a great company of green,
Upon a hundred thousand stalks,
Talk to us its great green talks.
And when the merry meal is done,
To loiter westward with the sun,
Dipping fingers ere we go
In the stream that runs below.
Of all the meals you can buy for money,
Give me a meal of bread and honey.

Richard Le Gallienne.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

The Sixth Annual Report of the Illinois State Bee-Keepers' Association has just been issued, containing 176 pages. Its contents, besides considerable miscellaneous matter, are the 1906 reports of the Illinois State Bee-Keepers' Association, the National, and the Chicago-Northwestern. There are a number of very fine engravings of apiaries, the Illinois State Capitol, etc. Cloth-bound copies were issued for the members of the Association only, and will be sent out as long as they last to any who become members on the payment of $1.00 to the Secretary, which not only secures a cloth-bound copy, but membership in the State Association one year, and the same in the National Association. A paper-covered copy of the Report will be mailed to any one who sends 15 cents to the Secretary to pay postage and wrapping. We think the Sixth Annual Report is as attractive and instructive as any we have ever issued. General Manager N. E. France says concerning this Report: "It is a credit to all concerned in getting it out."

Jas. A. Stone, *Sec.*

Route 4, Springfield, Ill.

American Bee Journal

Something About Queens in the Spring

BY G. M. DOOLITTLE

When settled warm weather comes in the spring, it is necessary that each colony contains a good, prolific queen, for if the queen in any colony should be old and failing, that colony could not be gotten in the best shape to take advantage of the honey harvest.

As the queen is mother of all of the bees in a hive, she must be able to lay rapidly so as to increase the population of the colony, and if such an one is not in the hive, she should be superseded with a better queen.

It often happens that the queen dies of old age during the winter or early spring, and in that case it is absolutely necessary that the apiarist knows it, else the colony will dwindle away till it is overpowered with robber-bees and the stores carried off, when the combs will be devoured by the larvæ of the wax-moth. Old bees rapidly die off with the work that now devolves upon them, for old age is brought about very much in accord with the labor done; hence at this time of activity it is very necessary that all colonies contain good queens from whose brood many young bees will be emerging, more than to make good those dying of old age. There is no other way of knowing for a certainty just what is going on inside of a hive, except by opening it and inspecting the combs. To know if there is a queen in the hive, inspect the combs, and if no eggs or small larvæ are found in the bottom of the cells at this season of the year, you can reasonably expect that they are queenless, while, if the eggs are few and scattered about in different cells without regularity, the queen is unprolific.

To be absolutely sure that a colony is queenless, take a frame of comb having eggs and little larvæ in it and put it in the center of the supposed queenless colony, leaving it there for 3 or 4 days. If queenless, queen-cells will be formed over some of the little larvæ, while, if no such cells are started, rest assured that the bees have something they are cherishing as a queen, which makes it unsafe to try to introduce another until the thing they are cherishing is disposed of. To find such a queen carefully look over this frame of brood, for in nine cases out of ten she will be on this frame. In fact, if I wish to find any queen that is not laying, I always put a frame of young brood into the hive containing such, leaving the hive further undisturbed for 3 or 4 hours, when, upon opening it again, this frame of brood is immediately lifted out, when, in nine cases out of ten, anything which the bees are keeping as a queen (and said queen is not laying) will be found on this frame of brood. This is the way to find out whether a colony has a queen. The started queen-cells will tell us that the colony is absolutely queenless, and if no cells are started, whatever they have and are keeping as a queen, can be found on this frame of brood we have given.

To the accustomed eye of the practical apiarist, prolific queens are easily found, especially if the bees are of the Italian race, but a virgin queen, or an apology for a queen, is often hard to find by an expert, and was, to me, a a very worrying affair until I learned this "giving of brood trick."

From the middle of April to the middle of June a prolific queen can usually be found between the hours of 9 a.m. and 4 p.m., on one of the 2 outside combs of the brood-nest, for most queens seem to have a certain route which they go over every 24 hours during the time of enlarging the brood-nest preparatory for the swarming season, she being in the center of the brood-nest at midnight, and from there traveling in her egg-laying toward the outside of the brood till noon, when she commences to return, reaching the center again at midnight. The next day she does the same thing again, only going in the opposite direction, or toward the opposite side of the brood-nest, which brings her on one of the 2 outside combs between the hours mentioned.

As more eggs are laid in these outside combs than in any others at the time of the brood being spread from comb to comb, the queen is on these outside combs longer in proportion than she is on those which already have their centers full of brood; and that she does not go clear across the brood-nest during the daylight of one day, I have proven by finding the queen hundreds of times on the east side of the brood-nest one day and on the west side the next day; the east side the next day, and so on for days in succession. Of course, I have never opened the hives at midnight, but the finding of the queen one or 2 combs out from the center at sunset on a June evening, and one or 2 combs out from the center in an opposite direction at sunrise the next morning makes me conclude that she is at the center at midnight. All queens do not show this regularity, and all persons do not open a hive carefully enough so that the queen is not stampeded from her work; but a careful examination during a week's time will convince any apiarist that most of the queens do have a certain route in which they travel in egg-laying, where the brood-nest is not spread or materially interfered with by the apiarist.

From this, in looking for a queen during the period of time spoken of above, I take out the frame in which is the first brood in the hive next to me, and if the queen is not on the comb I next take the comb at the outside of the opposite side of the brood-nest, and in nine cases out of ten I find the queen on one of these 2 combs at this time of the year and at the time of day spoken of.

In all of these operations, when looking for queens, the operator should always stand with the back to the sun, so that the eyes may be in the shade while the rays of the sun strike the bees and the "face" side of the comb, when, if the eyes are at all sharp at queen-hunting, she will be quickly seen. No person can expect to find a queen readily with the sun shining in his or her eyes, when the face side of the comb on which we expect the queen will be in the shade; yet I have seen many would-be bee-keepers looking for queens in just that way, and wondering why they could not find them. If the directions here given are followed out it should not be a great job to find any queen, whether fertile or unfertile.

Borodino, N. Y.

Experience With Caucasian Bees

BY E. A. MORGAN

So many enquiries are coming in in regard to the Caucasian race of bees, that we think it our duty to give our (Morgan Bros.) experience with them.

I notice most writers caution beginners not to try Caucasians—not yet. Some say they are still on probation in this country; others, that they are vicious; and others, that they are away behind Italians in honey-gathering qualities, are great propolizers, etc.

Now, to all of these I wish to say they either have not tried them, are prejudiced against them, or have not the true Caucasians.

Our experience is that they are away ahead of the best Italians, both in honey-gathering and in hardiness, and are non-stingers, perfectly gentle, so much so that veil and smoker can be laid away forever with them.

We were furnished 9 queens by the Department at Washington in April, 1906, for experimental purposes—to test them. We put them through a series of tests alongside of 100 colonies of the finest Italians.

It will be remembered that Morgan Bros. have been extensive bee-keepers and queen-breeders for 35 years, and we tested these Caucasians intelligently and carefully; and we must say for them this: First, they are perfectly gentle—no amount of rough handling will cause them to sting, and we operated them in cold weather on rainy, and on muggy, hot days, when Italians would sting viciously, and never received a sting. Second, with the same strength of colony they gave one-

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fourth more surplus than the best Italians. Third, they are more prolific, therefore more profitable to keep. Fourth, they are far the best winterers —more quiet—both wintered outside and in the cellar; consume less honey, and do not spring dwindle. They work all day on cold, spring days when Italians do not fly at all during the day.

In regard to propolis, they plaster most of that near their entrance, but carry none whatever to the sections. Their section honey is whiter, cleaner and better-finished than any Italians ever did for us.

To beginners and ladies wishing to start in bee-keeping, we consider them the best of all, and we predict that as soon as the veteran bee-keepers test a pure strain of Caucasians, they will very soon weed out their Italians and keep none but the former.

South Dakota.

Bee-Keeping in Carniola

BY F. GREINER

The home of the Carniolan honey-bee (Carniola, Austria,) is also a country in Europe where bee-keeping is carried on by professionals, and where bees are reared for sale and to stock up the empty hives of less fortunate bee-keepers. There must be a good honey-flora in those mountainous sections, for very large apiaries are kept. I hope some time to see them myself, but at present I only write from what I learn through the press.

Ambrozic was the owner of one of the largest and oldest bee-establishments in that part of the country, and a circular of Strgar is coming to me now. Bees and queens are reared here for sale in large quantities. The apiaries are kept in the mountains, and it is a common sight to see men and women following the mountain-paths with hives containing bees strapped on their backs, for it is probably impractical to reach these high points with any vehicle. In America a business could not be carried on this way on account of high wages. It would hardly pay here to move bees on the backs of men and women carrying them many miles.

The hives used in Carniola are rather peculiar on account of their shape. They are about 27 or 28 inches long, and 12 inches wide; in height they are only about 7 inches. A hive with bees like the illustration is sold for about $3 in Carniola. The fact that such a hive can winter bees in the cold, exposed regions in Carniola speaks well for the bees, and perhaps is also a proof against the so often advanced theory that bees ought to have their winter stores above rather than at the side of the cluster. However, it must not be lost sight of that the method of keeping the bees in Carniola differs from our own very materially. Such hives are never placed singly; on the contrary, they are corded up as we would cord-wood, the whole lot of bees in one huge pile, and under one common roof. This manner of wintering leaves only the ends of the hives exposed, and if the combs run crosswise

and not lengthwise of the hive, there are no frames in the hives producing a draft around the cluster, and the combs at the ends act as division-boards, thus giving a very good protection.

The hives are made of thin lumber, the ends being the heaviest. Prof. Benton exhibited one of these ends or fronts of such a hive, which he had brought from Carniola some years ago. It was decorated nicely with some Bible scene—a habit these Carniolans have of proving again that time is not worth much with them.

Naples, N. Y.

Conducted by J. L. BYER, Mount Joy, Ont.

Early Manipulation of Bees

In Gleanings of May 1st, R. F. Holtermann tells of having "examined colonies for queens, brood and honey, clipped queens — something unusual for us in March." While I am, as a rule, pretty much in accord with Mr. Holtermann's teachings, yet in this case I would decidedly take issue with him as to the advisability of such early manipulations in our climate. I am quite certain that tearing the brood-nest apart early in the season, especially when no pollen or nectar is coming in, is responsible for a whole lot of queens "turning up missing" later on.

Aside from a little time gained by having the queens clipped before a busier time comes, I fail to see any good reason for lifting the frames out, in order to diagnose the condition of a colony. Where a quilt is used, all that is necessary is to turn the same up slowly, and gently puff in a little smoke to drive the bees down; nine times out of ten a single glance among the frames will reveal the general condition of the colony.

Removing Pollen by Cutting Down Combs

Commenting on a question asked by a bee-keeper in England, as to whether any British bee-keepers had tried the "Canadian system" of cutting away the comb to the base or mid-rib to remove pollen clog, Mr. Holtermann says that it is news to him that this plan is a Canadian system. While I do not know that the idea is of Canadian origin, yet I *do know* of a number of good bee-keepers, among them Messrs. McEvoy and Storer, who follow this plan every year with their super-combs. While I personally have followed the plan advised by Mr. H.—cutting out the pollen-filled parts and melting into wax—yet, after seeing Mr. Storer at work scraping the pollen off, I am bound to say that he made a neat job of the matter.

Propolized Fingers for Clipping Queens

Speaking of clipped queens, Mr. H. says: "If bee-keepers would thoroughly rub propolis over their fingers before touching a queen, no evil results would occur from foreign odors." Dear me! the problem with a number of us has been how to keep the propolis *off* our fingers; in fact, the propolis item was one of the factors that led me to adopt the *sensible* plan of clipping the queen without touching her with my fingers at all.

Early Stimulating of Bees

Mr. House, in his address, had considerable to say in favor of early stimulating, yet he admitted that stimulating was impracticable for out-yards. To quote his own words:

"It is too much trouble to feed out-apiaries. I stimulate them by giving them a queen so prolific that she will lay all the time. I depend upon my queens for stimulating out-yards."

While it pleases me to agree with Mr. House, yet it appears quite logical to ask why he doesn't apply the same less

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troublesome system to his home apiary. From remarks dropped by Mr. House, I feel quite sure that in the near future he will dispense with early stimulating altogether, as I feel sure that with the right strain of bees colonies can be in the very best of condition for the honey-flow without the bee-keeper having to feed an ounce of food in the early spring.

My home apiary, and the one at Cashel, 4 miles away, have both wintered poorly, the loss all being caused by dysentery, for which we blame a small amount of honey-dew, coupled with a very severe winter. At the Altona yard, 8 miles away, every colony wintered, and although the spring has been *very* backward, pollen having only been brought in 4 or 5 days to date (May 13), yet 90 percent of the yard require top stories inside of a week or 10 days, if the weather is fine.

In fact, we found one colony with queen-cells with eggs in, every available cell in the hive being occupied with brood, pollen, or honey. Be it remembered that the hives at this yard are all equal in capacity to a trifle more than a 12-frame Langstroth, and May 13 this year means, with us, previous to any sugar-maple, dandelion, golden willow or fruit-bloom. The surprising difference in favor of this yard has been laid to absence of honey-dew, yet I find all around this apiary, at least 50 percent of other people's bees are dead.

I have no explanation to offer, but I will simply say that at this yard there is not a single Italian queen—the bees being all Carniolan and blacks, and their crosses. The hives were heavy last fall with buckwheat honey, and this spring, regardless of steady bad weather, this honey was turned into one great host of young bees. To use Mr. House's statement, "the queens were so prolific that they laid all the time."

Sectional Hives Non-Starvers

Speaking of the sectional hive, Mr. House, in his address at the Brantford convention, said: "I never saw a colony starve to death with honey in the hive in a sectional brood-chamber." Pretty strong claims, and enough almost to induce some bee-keepers, after a winter like the last, to adopt a hive of that style. Yet with a frame considerably deeper than the Langstroth, with ordinary precautions, there need be little loss from the foregoing cause, even if the divisible feature is lacking.

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Those Texas Ants

It seems that it always takes some "tenderfoot" to come to the wild and woolly (?) West and "hatch" out some wonderful tale that most of *we'uns*, who have been "bred in old Texas," know very little of. We knew that there were ants in Texas—yes, lots of them—but we did not know that "the only way one can be sure of his bees is to isolate each hive by standing it on legs surrounded by water." My, my! what would the bee-keepers of Texas say who have hundreds of thouands of colonies *right down on the ground*, and are not bothered by ants? The writer is only one of these, with hundreds of colonies. There are ants here, too, but never have they done harm to my bees. Hence, "in spite of ants, weather, and all other adverse conditions, bees do thrive in Texas, and the wide-awake bee-keeper gets his reward ——."

I will admit that there may be *some* isolated locations where ants may be troublesome to some extent, but the wide-awake bee-keeper would soon have the upper hand. It is true that some of the smaller ants make trouble for the bee-keeper, and for the housekeeper, too, by getting into the honey and other things, if not in tight vessels; and the easiest and surest remedy is the "legs-in-pans-of-water." A little careful study of these interesting little creatures will help much toward getting along with them, however.

Ravages of Foul Brood

Right along the matter of foul-brood laws and inspection of apiaries, I wish to call the attention of bee-keepers to the danger of letting their apiaries "run down," as it is commonly called; letting hives and combs from which bees have died become exposed to others or healthy bees. The picture herewith shows just such a dilapidated apiary.

Besides exposing these dangers, "it is strictly against the law" to expose any infected honey, comb, hive or appliances as per the foul-brood law, hence it will be well to guard against any such negligence, or else become liable for a misdemeanor.

It may be well to remark again that it is to your interest to report any trouble of suspected diseases of your bees as soon as discovered to the State Entomologist, College Station, Tex., and have the bees inspected, if need be, rather than let your apiary get into such condition as here presented.

APIARY DEVASTED BY FOUL BROOD.

Good Home-Made Hive-Covers

There is no part in the make-up of a bee-hive that we prize more than a good, serviceable, and durable cover, and here in the South, where our hives are exposed to all kinds of weather all the time, it is very essential that we have the best covers obtainable, for it often happens that a cover gives way, and, before we are aware of it, a leak has done considerable damage, especially if it happens in the winter when we are not often around. So we are constantly culling them out for various reasons.

We do not advocate home-made hives, but we do say that a mechanical bee-keeper can make his hive covers and bottoms, and, perhaps, it would be best

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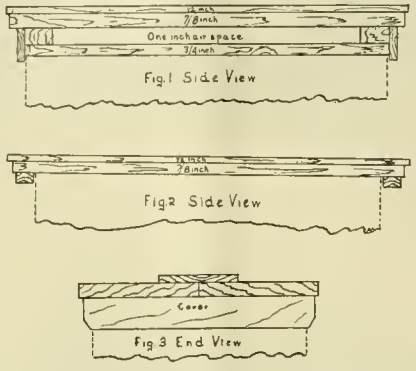
for him to do so, for he might run out, some time, and need a few before he could get them from the factory or dealer. But caution should be taken in selecting the material, and it would be best if it were seasoned in the open air, and mostly heart, and soft; also, it should not be warped, and should be free from knots and other defects. Lumber from goods-boxes makes very good covers, as it is soft and not easy to split, but it should be painted well, for if it is very thin it will let the water through.

In putting the covers together, great precaution should be used to turn to the weather the side of the board which grew nearer the center of the tree, and nail well with small flat-headed nails (not finishing nails). Then paint them well and keep a few extra at each yard.

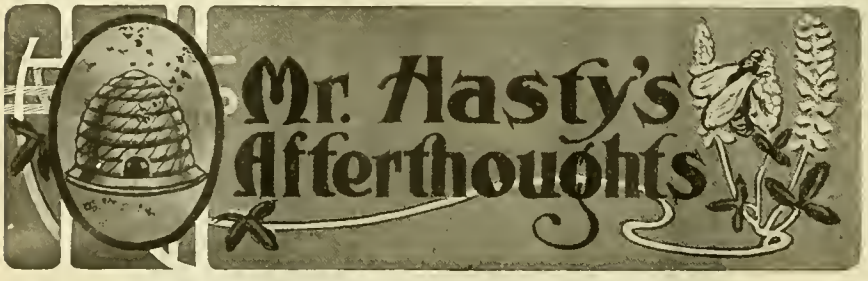
I have tried several styles of covers, but the two illustrated have given me the best satisfaction, and they are simple, durable, and cheap.

Where hives are exposed to the sun, Fig. 1 is the best cover, for it has an air-space and needs no shade. I have lost some colonies, many combs, and no small amount of honey from the heat of the sun, but I have never lost any combs under these covers. Figure 2 is a still cheaper cover, and is used



where the hives are not exposed to the sun Most of the nails in these covers can be driven through and clinched, and will not give way and work out.

Crisp Co., Ga. J. J. WILDER.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

THE DEER-MOUSE AS A HONEY-EATER.

I have a live deer-mouse. He's a beautiful fellow, fawn-colored above and pure white below. His eyes are large, dark, shining and projecting, like they were beads set on his head. He's a peach. Likewise he is (at least my specimen is) surprisingly tame, or audacious, or something, for a creature with no previous contact with human beings. Did not even scamper a little when first let out of the trap. Walked to a cracker and smelt of it; walked to the water-fount and took a long, hearty drink of it; took a little turn around the limits of his quarters; and then got to business by beginning to eat. From the first hour he would let me almost poke him with my finger before he would move away. And 48 hours later, in response to one of my finger pokes, he bit me—but not sharply enough to hurt much. Deer-mice mostly keep to the fields; but this one was caught in the house upstairs. They are one-half larger than house-mice—14 drams — while the normal weight of the house-mouse is 9 drams. But though larger, mine, so far, seems not so ravenous to eat as the little chaps.

Well, this is the fellow I accused of eating the honey of out-apiaries, and getting it laid off on the house-mice. Wishing to have his normal performance, before any pampering or other influence from captivity, I gave him honey the first night, a partly-built section, mostly empty comb, but some honey on one side, all sealed. My theory seemed to get a backset at first. He nibbled most of the dry comb into powder, and in the process started the honey to running somewhat; but it lay on the bottom of the big can which served as cage. To the best of my observation he had not eaten any of it. Possibly I was slightly in error there; but that's what I decided at the time. In this experiment I gave no other food; but he had been eating all the cracker he wanted just before. During the next day he ate some honey, and some more the next night. Then I put in a piece of bread and an ordinary section of honey, which has been his regimen ever since. Soon came to eat more honey than bread. For the last 2 days I can't see as he has taken any off his piece of bread—getting to an exclusive honey-diet, 'pears like. Weighing the section as accurately as I can, I find he has taken 12 drams 16 grains in 5 days, or 2 drams 14 grains per day. That's over one-seventh of his own weight. It will do—although a long way behind the eating exploits of the house-mice when they let loose once.

ROBBER-BEES AND POLLEN.

T. P. Otis, on page 267, contributes a very interesting observation. Robber-bees gathered up pollen on the alighting-board and carried it off. Quite rare, I think. With wires, or zinc, or too closely contracted entrance, there is often quite a pile of lost pellets at the door; and I never could see that the home-bees would ever take pains to save them—though, perhaps, they do sometimes. Cow will eat what she wouldn't eat otherwise, provided she can steal it; and I suppose these robbers found their souls similarly moved. Willing to gather lost pollen provided they could consider it plunder.

CEMENT HIVE STANDS AND BOTTOMS.

Yes, Mr. Byer, cement hive-stands and cement bottom-boards are taking words. If the latter prove too cold for winter, how would it do to use a thin thickness of wood and the cement under it? I am specially attracted because at my apiary termites do lots of damage. I am quite sure a projecting cement bottom would keep them down; as they would not be able to carry forward their mud-works unless they had a passage to moist earth to get the material. Page 351.

CANADA AND U. S. POSTAL WAR.

The Koran has a proverb to the effect that, "When nations go to war the people must suffer from the soldiers." Bluntly and brutally just so! And just so now, it seems, even in this twentieth century. Canada and the U. S., having had postal annexation for a spell, now want to have postal war for a spell. Does seem that (with all the peace agitation and Hague Tribunals of the day) they might have given a little longer notice of hostilities. Peaceful publishers certainly ought to have time to get out from under the wheels of the war Juggernauts. How easy it is to show spunk when somebody else has to take the suffering part of the consequences! Page 389.

OBSERVE AND REPORT.

"Observe during the ensuing summer and report," eh? There! That sounds more like science. We've had, "Give us off hand your impressions"—about everything under the crazy moon—until we have about played out that kind of Question-Box. Why not *we* take a lesson from France, and have some questions tested by actual and fresh observations by a company of competent men? Page 391.

Getting New Subscribers for the Bee Journal is something that almost any reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

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Report of the Connecticut Convention

The 16th annual convention of the Connecticut Bee-Keepers' Association was held in the Capitol at Hartford, April 6, 1907. That the Association has grown during the past year was evidenced by the fact that the room in which the meetings have been held for more than 15 years was too small on this occasion, and an adjournment was taken to the Supreme Court room.

Officers for the ensuing year were elected as follows: Allen Latham, of Norwich. President; Rev. D. D. Marsh, of West Hartford, Vice-President; and J. Arthur Smith, of Hartford, Secretary and Treasurer. Executive Committee, Edwin D. Barton, Stephen J. Griffen, and George W. Smith.

Dr. E. F. Phillips, of Washington, D. C., spoke in the morning concerning American and European foul brood, and referred to the enormous losses caused throughout the United States, and some of the good work done by inspectors. He said that either disease can be handled easily if one knows how to do it; that if you teach a man and treat the disease you don't have to visit him again.

In the afternoon he took for his subject the inspector, and stated that the bee-disease inspectors throughout the country are doing fine work; that they are reliable, hard-working and a much maligned class. A high tribute was paid to Charles Stewart, of New York State, as an inspector, whose tact in handling bee-keepers is remarkable. A. G. Edmondson was referred to as one who knows bee-diseases, who makes no mistake in a diagnosis, and who, when sued, has taken honey into court to prove that the disease actually existed. Dr. Phillips said it is harder to handle the bee-keeper than the disease, and although there is no opposition from honest bee-keepers, yet it is necessary that the inspector have a strong law back of him; that although there is only one case in 500 that the inspector has to call in his power as a police officer, nevertheless he should be given a weapon that is strong.

Dr. Phillips strongly favors legislation, and said that if Connecticut gets a law passed, and the right man for an inspector, all will be right. He believes that the honey industry has decreased in the State in the last 25 years because of the prevalence of foul brood.

On May 2 the Committee on Agriculture of the Connecticut Legislature reported favorably on the Foul Brood Bill. It is hoped that it will finally become a law.

Dr. E. H. Jenkins, of the Connecticu Agricultural Experiment Station, New Haven, was present and extended a cordial invitation to the Association to hold a meeting at the Station. It was voted to accept the invitation, and a field-meeting is to be held there the coming summer.

A list of questions was taken up for discussion, which had been suggested by members.

The question, "What is the best outfit and methods for a beginner," was answered by Mr. Latham, "A hive of bees, a smoker, spunk, brains and time."

The best way to teach the box-hive bee-keeper to use a frame-hive was, "Let him alone."

The question as to why bees stop gathering nectar and build drone-comb received two answers: "Bees build drone-comb when the honey-flow ceases and the wax supply doesn't." "Sometimes bees build drone-comb for no apparent reason."

No one present had experimented with Caucasian bees except Dr. Phillips. He said that they hardly proved themselves equal to the Italians and Carniolans, yet they capped their honey all right. Since they had been under observation they had not exhibited swarming tendencies, but might later on. Their extreme gentleness was emphasized.

The bee-moth was discussed, and Mr. Latham said he thought it was present in all colonies, strong and weak, but that the former kept it in subjection. Mr. Griffen believed that there were none in his hives. The method of placing a moth-infected colony over a strong colony, which would rid the former of moths and grubs, was advocated.

It was the opinion of Henry L. Jeffrey that alsike clover yields poor honey.

The best way of feeding in the fall was said to be the Townsend method, which Mr. Latham explained.

The question as to the best method of producing wax annually without sacrifice of the honey crop, seemed to be best answered by the remark that every bit of wax should be carefully saved. One member said that in that way he was able to make all his own comb foundation.

The question of stimulating bees in the spring by feeding, led Dr. Phillips to say that honey from any locality where disease is known to exist should not be fed.

To prevent honey granulation the rule was given to heat to 140 degrees.

E. D. Barton said that snow should be cleaned away from the entrance of the hive in 5 weeks.

It was the general verdict that bees had wintered well under all methods.

J. ARTHUR SMITH, *Sec.*

Report of the Chicago-Northwestern Bee-Keepers' Association, held in Chicago, Wednesday and Thursday, Dec. 5 and 6, 1906

(Continued from page 468.)

CHARGING DIFFERENT PRICES FOR SAME KIND OF HONEY.

"Is it policy to charge different prices to different parties for honey that is alike?"

Mr. Hutchinson—Same quality of honey?

Mr. Meredith— The meaning of the question is this: Is it policy to sell honey of the same kind to 3 different parties, charging one say 10 cents, another 12 and another 15. I asked that question for the reason that I found there were some customers that concluded that they wanted honey that cost more than a shilling a pound, because somebody else had honey that was selling for 15 cents a pound while my price might have been 13 or 14 cents. I asked if it was policy to sell honey in that way.

Pres. York—That reminds me of something I heard about an Evanston family—you have all heard of Evanston, I suppose! They discharged their cook because she did not run up big enough grocery bills. Their neighbors spent a good deal more money on their table than she had been doing, so they discharged her—to keep the grocery bills up to the same height as their neighbors. They thought they ought to pay more. Some people think that unless they pay a large price they are not getting a good article. They feel better when they pay more. I don't think that applies to bee-keepers, though!

Mr. Taylor—It might turn out to be a bad policy, if they found out it was the same honey.

Mr. Moore—I have sold honey for 20 years. I think it is really an individual matter in which the customer is not very much interested. The customer wants to buy fine honey, and he wants to pay the price agreed upon; but you, as an honest man, must treat them all alike. You may sell the same grade of honey at different prices. A man who buys one pound pays 25 cents. A man who buys a 60-pound can—you will make more money by selling at a lower figure; and a man who buys a ton, you will make money by selling at a still lower figure. The only thing that grieves me in my honey-trade—mostly a family trade—is that the millionaires can not be charged enough so that they will feel that they are getting something. I would like to see the poor man that has to look after the pennies charged the small price; but I would like to charge the millionaires enough to make them feel they were getting something good.

Mr. Baldridge—I have sold some honey, but I never had but one price to white or black, rich or poor.

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Mr. Moore—Wholesale or retail?

Mr. Baldridge—Retail. I never had but one price in my existence, and I do not see the necessity of having more than one price.

Mr. Arnd—In selling honey, I think, in order to protect the people that resell it—to the private trade you ought to charge more than you do to a man who expects to sell it again. I charge two prices for honey, and I charge three prices for honey—to the man that buys in large quantities by the ton; to the man that buys a few cans at a time, to the man that buys it to eat on his own table. To the man that buys it for his own table I sell at such a price that another man could buy honey of me and sell it to that same man at the same price I sell, and yet make money.

Mr. Wilcox—My trade is a wholesale trade. We sell none to families nor to jobbers to sell again to groceries, of any consequence. I have one price for everybody, and if the prices change I charge each man the same thing; even though they may have agreed upon a higher price, I give them the same price that I charge others; and I know from several years' experience that it will be best in the long run to do so. They will sooner or later discover it, if you are charging them more than you are charging others, and it will surely injure you in the end. It is not fair, it is not honest, it is not good policy—and that is the question—to have different prices for customers of the same class, for the same class and kind of honey.

Mr. Moore—That is the point.

Mr. Wilcox—But, of course, there is one trifling exception. If you have a customer that you are a little in doubt about, whether he will ever pay or not, you can charge him a little more, and perhaps he will go somewhere else.

Mr. Arnd—That remark of Mr. Wilcox's is, I think, well put. He says "the class." Now the man who buys a gallon of honey to eat on his own table ought to pay more than Mr. Wilcox or any other bee-keeper that wants several cases; and in order to protect the man who buys the honey and sells it again, we have to charge the retail man more.

Mr. Wilcox—The difference is, you class the customer and I class the honey. I spoke of the same class of honey.

Pres. York—While we are on that question, here is one that touches it a little bit: "Should not the bee-keeper be compelled to guarantee to the broker or buyer that his honey will stand the pure food law test?" How many think he ought to be compelled to guarantee it raise your hands. None. All who think the producer ought to be compelled to guarantee. About 15. It looks as if we all did, who care to vote.

Mr. Taylor—The question in my mind is, What good would it do if they guaranteed it?

Mr. Wilcox—In Minnesota they are forbidden to sell it without it is marked as the producer's honey, and that is a guarantee without anything more on it.

Mr. Thompson—This question I believe was discussed here once before, as to what constituted honey that would stand the pure-food law test. That is the question I had in mind— how the producer is going to be able to guarantee his honey other than that it is gathered from natural sources. It honey-dew brings it into the class where it could not be guaranteed, how is he at all times going to be able to guarantee his honey?

Mr. Taylor—He guarantees it and runs the risk.

Mr. Meredith—I would like to have Mr. France give us some suggestion in regard to how to tell honey when it is pure, or any other information on that subject that he can give.

Mr. France—That is part of the constitution of the National Association; one of the planks in the platform is to prosecute adulterators of honey. I began investigating that side of our platform, and I found that honey varies greatly in different localities; it varied greatly in the same locality, according to the conditions in which it was gathered. Then I began to try chemistry to know where to get a basis to work on. I am sorry we have not yet attained satisfaction in that line. I went down to the Eastern States to see the chemists at the time of the United States Chemist Bureau meeting, as to the definition of honey. They were going to throw out entirely all forms of honey-dew, and it was on my pleading that that part was put therein. I can imagine a bee-keeper might be honest in the belief that he was selling a good grade of clover honey, and it would not all of it stand up to the test, the way they were giving it. So the definition has been modified. The only thing I know that we can do at the present time under the new food law, which will go into effect January 1st, is to keep our bees as near as we can where they will store the sweet that they get from the field; and if we find that they are gathering honey-dew, save it by itself and sell it for what it is. We will have to do the grading more than any one else. If we know our bees are gathering honey-dew, let it go as honey-dew, and sell it as such. There are always people in my locality who want to buy poor or cheap or dark grades of honey. They like to buy the "lasses" for the children, while they have something better for the older folks. They will buy honey-dew if you tell them what it is; but sell it for what it is. Then as a help to our National Association members, especially, how can we then protect ourselves under this point which Mr. Arnd brings up? When I send him honey, he, as a dealer, has to put up a guarantee to sell my honey. How is he going to be safe in his guarantee? He ought to have a right to fall back upon the producer, and the producer simply guarantees it as the product of the bee. When they go beyond that as to proof that it is from flowers, I question if we have anything yet that is satisfactory; chemistry is weak on that point.

A Member—Do the chemists know it?

Mr. France—Yes, sir; the chemists are aware that they are weak on the point of a positive proof of strictly pure honey from the nectar of flowers or exudation of plants gathered and stored by the bee.

Mr. Meredith—What is the definition of the word "honey-dew" from a bee-keeper's standpoint?

Mr. France—As a bee-keeper understands it, it will be the exudation of insects gathered by and stored by the bee in the combs. Some one was speaking about the little white aphids upon the soft maple. We found a good deal of that in Wisconsin, in the last 2 or 3 years. The little white aphid is destroying the maple-tree. The bees are working upon the leaves, and it was in places, too, where clover was coming in enormously, and it was in many places mixed in the extracted honey. We can not separate it, but must sell it for what it is.

Dr. Miller—Mr. President, will you read the question again?

Pres. York—"Should not the bee-keeper be compelled to guarantee to the broker or buyer that his honey will stand the pure-food law test?"

Dr. Miller—I suppose that depends upon circumstances. In some cases the buyer would require it. If I were a buyer and wanted the bee-keeper to stand back of me, I would expect him to do it. In some cases I do not think I would want it. For instance, here is a dealer that wants to put out honey under his own brand, and he receives his honey, puts it up in packages himself. He can not keep the bee-keeper's guarantee upon the packages, but the bee-keeper's guarantee can stay on a package that comes from that bee-keeper only, and when that seal is broken his guarantee does not amount to anything upon it. If the dealer wants to sell it with that original guarantee on it, then he would want the bee-keeper to guarantee it. The thing, you see, will be complicated; but I think I can see that there might be some advantage in that, too. There is the disadvantage of the objection the dealer would make to it. He would say, "I want to sell my honey—I don't want any other man's name upon it, because I want the advantage of all the reputation I get from it." On the other hand, there might be this advantage. There are people who would buy honey more readily with the guarantee of the bee-keeper upon it, just because they knew who the bee-keeper was that it came from. Then, again, there are others that would buy from the dealer because they would know the dealer, and would depend upon him. So, you see the thing has a good many different bearings. I would say, in answer to that question, that any honest bee-keeper would be willing to guarantee his honey. He might guarantee it to the dealer, even if the dealer chose to break it up and put it in packages of his own. I do not believe that I would ever sell honey to any man that I would not guarantee was all right.

Mr. Arnd—I asked that question, so that a dealer could trace back, and if he is "held up" he can go back to the next man, if he buys it from a dealer, and so on to the bee-keeper.

Mr. Abbott—I would like to say that the producer could not ship it unless he

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guaranteed it to the railroad, under the interstate commerce law.

Mr. Arnd—As being pure honey?

Mr. Abbott—Yes.

Dr. Bohrer—I voted in favor of requiring the bee-keeper to guarantee the purity of the honey. I will do that, and I have now ordered labels, and as long as the package upon which I place the label is unbroken, I will guarantee it to be absolutely pure as the bees stored it in the combs; but if the dealer that purchases it from me breaks that package and repacks it, I won't agree to be responsible any farther.

Mr. Moore—I have been making quite a number of calls on the grocery trade, and in every grocery I am met by the question, "How do you know this is pure?" And it was suggested here that we voluntarily offer to guarantee our honey. That is good business sense. You must not wait until they come with a club and make trouble for you, but you must meet them more than half way about these matters. For my own special trade I have gotten this up; at the top is my heading, you see: "I hereby guarantee my honey to be pure at all times, in all sized packages, and to comply with all new and old pure food laws." I sign this and hand it to my customers, saying, "There is your guarantee," and it satisfies every one. In the absense of anything better, I shall continue to use that, and I am inclined to think that it covers the ground.

Continued next week.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Tested and Untested Queens—2-Frame Nucleus

1. What is a tested queen?
2. What is an untested queen?
3. What is a 2 frame nucleus? If I were to buy a 2-frame nucleus, how many swarms could I get in one season from it?

INDIANA.

ANSWERS.—1. A tested queen is one which has been laying more than 3 weeks, and whose worker progeny all show 3 yellow bands; thus showing that she is purely mated. Since the days of 5-banders this test is not so reliable as it formerly was, for it is possible now to have 3 yellow bands with some black blood.

2. An untested queen is one which has not been laying long enough to show the character of its progeny.

3. A 2-frame nucleus is nothing more nor less than 2 frames of brood and bees taken from any colony and put into a separate hive. It may do no more than to build up into a full colony for winter without any increase; or it may make 2, 3, or more, according to the season and the management. Left to itself in a poor season it might hardly hold its own. In a good season, something depending upon how early the nucleus is obtained, it may make the increase mentioned. In a poor season feeding may help out, but no feeding is quite so good as a heavy flow from the flowers.

Management for Increase

I am a beginner in the bee-business. Last year I came into possession of about 25 colonies of bees, and about 17 more hives and bee-fixtures. The hives are 8-frame, made in our local "Novelty Works." I have lost all but 5 colonies since I set them out this spring, and will probably lose all but 2. These 2 seem to be strong and all right. These bees had never been cared for, so the comb in the brood-chamber is built in every shape. I want to cut out the old comb, put any new swarms on straight foundation, and attend to them as they ought to be attended to. How shall I handle these 2 colonies to get the most increase? Of course it will be almost impossible to remove the frames without tearing the combs all to pieces. The bees are Italians. IOWA.

ANSWER.—It is not an easy thing to say just what will be the best way for you to increase, as what is best for one may not be always best for another. In the first place, don't condemn too hastily all those old combs, even if at first sight they do not appear usable. Every old comb you can save will help just so much in increasing, as it will save the bees work. Take a saw and cut down at each side of a hive, so as to sever all attachments, then turn the hive upside down and jar out its entire contents. Now see if there are not some combs that are straight enough to be used, the same being of good worker-comb. If they are a little dirty or mouldy, the bees can clean them up; only you should brush off the dead bees. If a comb is nearly all in one frame, cut away its attachment to the next frame, straighten it into place, and fasten it in place with strings or otherwise. The comb should be quite warm when this is done, so it will not break instead of bending. If some combs are too much out of place, perhaps running straight across the frames, of course they must be cut out; but some of them may be fastened in frames after they are cut out.

In making increase, the most rapid way will be to start nuclei, giving to each nucleus a laying queen that you will buy. If you want to save the expense of buying, you may still like the nucleus plan. You will lose rather than gain by beginning too early. Wait till the colonies build up strong; then from one of them take the queen with 2 frames of brood and adhering bees, and put in another hive as a nucleus. In 8 or 10 days put this nucleus with the old queen back on the old stand, and out of the old colony make as many 2-frame nuclei as you can, putting one of them in the place from which you have just taken the old queen. Of course each nucleus must have at least one good cell centrally located where it will be in no danger of being chilled. Colony No. 2 you have not disturbed at all, and you can now take from it 2 frames of mostly sealed brood and give to colony No. 1. If it has any more brood to spare you can give a frame apiece to as many nuclei as you can; but don't reduce No. 1 nor No. 2 at any time to less than 4 frames of brood. You see you must keep them fairly strong all the time, drawing from them as you can to strengthen the nuclei. Indeed it may be best not to take more than the 2 frames from No. 2 to give to No. 1, for in a little while you will want to treat No. 2 just as you did No. 1, making it queenless and starting more nuclei. If the season is good enough and long enough, some of your nuclei will become strong enough to yield help to the later nuclei, and just how far you can go will depend on circumstances. But don't make the mistake of trying to go too fast and then being caught in the fall with a lot of weaklings that will die in winter.

Italianizing—Working for Increase

Having made up my mind to get rid of my hybrid bees, I have bought 3 Italian queens.

1. Can I, by having 3 pure queens, increase my 3 hybrid colonies, and at the same time have all pure stock next fall?
2. If possible, I would like to increase to 10. What are some of your plans? I don't care if I do not get much surplus honey this season. I am more for increase. MICHIGAN.

ANSWERS.—1. When we say "all pure stock," that means that the queens are not only of pure descent but purely mated. So if there are any but pure drones for some distance from you, you can not be sure of "all pure stock," for although you may make sure that all your young queens are of pure descent, you can not make sure that they are purely mated.

2. If I understand correctly, you want to increase the 3 to 10 colonies. If the season is sufficiently good and also sufficiently long there ought to be no trouble in doing that. The easiest way will be to let each colony swarm naturally, putting the swarm on a new stand and leaving the old colony without being disturbed on the old stand. In something like 8 days, each old colony may send out a second swarm, and a day or two later a third swarm. Even if only one colony sends out a third swarm, that will make 10.

3. If you do not wish to trust to their swarming enough, you can take the matter into your own hands. A week after the first swarm has issued, divide each old colony into 2 or 3 parts, making sure that each has a good queen-cell centrally located.

Feeding Pollen Substitutes in Empty Combs

I have just begun to overhaul my bees to note their condition, etc.; have examined, this afternoon (April 22), 19 colonies, and while but few need feeding, I do not find a single cell of pollen in any of the hives, nor a single cell of brood in any stage of development; in fact, I have not discovered an egg in all my search so far. Now, I have thought it might be a good plan to take dry combs which I have, sprinkle rye or other flour in the cells, and hang them in the hives next to those of honey. What do you think of the plan? Would it be better to put it outside where the bees could get it for themselves?

WISCONSIN.

ANSWER.—It would be a nice thing if you could have what the Germans call "*stamp-honey*"—combs of honey and bee-bread all smashed up. If any of your neighbors had colonies die in the winter, you might get from them combs containing pollen; although conditions that brought about such a remarkably unusual thing as colonies utterly without pollen may have left theirs in the same condition. Unless there is no weather for bees to fly, better give the meal outside, although it will do no harm to try it inside at the same

American Bee Journal

time. A paste of flour and honey smeared on the combs might be worth trying. For outside meal-feeding ground corn and oats is sometimes used here. Most likely it will make little difference whether you feed any substitute for pollen or not, for the receipt of your letter finds dandelions opening here, and they are likely the same with you.

It is just possible that your lack of pollen may be an advantage in the long run. During the dreadful weather in April, your bees remained quietly doing nothing for 3 weeks or more, while others with brood were suffering.

L Super and T-Super

1. On page 337, you quote me as saying "Langstroth" super. Please note that I never used the expression "Langstroth super" in my correspondence with you, but I said the "L" super. Now, I do not know what the letter L stands for, but I had reference to a certain kind of super designated as the "L super" in the catalog, which is a plain super for an 8-frame hive with slats and fences running crosswise of the super-body and designated to hold 30 plain sections 4x5x1⅞, called "Danzenbaker sections." Your answers to my questions seem to be very clear, but I can not tell how it will pan out with me until I try it. Some 2 or 3 points look sticky to me yet.

2. First, in regard to that bee-glue. I have cleaned sections at all times of the year; in fact, I never did clean my whole crop at one sitting, but just cleaned up small batches as I would sell them all through the winter, and I have yet to find the time when the propolis won't stick more or less, and more or less honey stand on the wood in the way to gum up my knife and make a messy job at best.

3. Second, in regard to pushing out the whole superful of sections at once. I have done it with the L super, also with the Ideal and Danzenbaker, but I never could see where I gained anything by it, because when I went taking off the slats and taking out the fences I had an awful time of it just the same, In fact, I rather appreciated having them back in the super to hold a portion of them steady while I pried another portion loose, and that is just the reason I adopted the plan of taking them out while on the hive and among the bees. When the super is first tilted and the bees are still in it, the glue is warm and soft, and the sections will come out one row at a time without so much difficulty, and then the fences are all separated and out of the way. Perhaps if I had the T-super I would find the case different; but I can hardly believe the bee-glue would be any less abundant or sticky. I think I will try a few this summer. MISSOURI.

ANSWERS.—1. Upon first reading your letter, throwing upon my shoulders the burden of having changed "L super" to "Langstroth super," I promptly prepared to make an abject apology, but on turning to page 337, I found that in my answers I had made use of neither term, so I slid the burden off my shoulders to let it fall on those of the Editor, "the intelligent compositor," or the printer's devil, whichever one it was who took liberties with your copy. In pity for the delinquent in the case, however, I may say that it is a very common thing to find, in manuscript sent in, the contraction "L" used for "Langstroth," and after having for a few hundred times changed "L hive" to "Langstroth hive," and "L frame" to "Langstroth frame," one would almost unconsciously change "L super" to "Langstroth super."—[We had entirely forgotten the "L" super, as it was never used extensively. Dr. Miller was not the culprit in this case. It was—THE EDITOR.]

2. There may be some peculiarity about your bee-glue with which I have no acquaintance, but I was under the impression that *all* bee-glue becomes brittle when sufficiently cold. I wonder if it can really be that your bee-glue is entirely different from mine when the thermometer stands at zero. With regard to honey standing on the wood, that is not a matter affected in the same way by cold. When there is any honey on the top-bars of the sections, we don't attempt to scrape the glue off until the honey is removed. First a knife is slipped under the honey to scrape it off, if there is enough honey to make it worth while, and a wet rag removes the rest.

3. Of course, the kind of super makes no difference in the character of the glue, but the kind of super has much to do with the matter of cleaning a whole superful of sections at a time. At least it has "in this locality."

Having a Fine Honey-Flow.

I have 11 colonies of bees in 10-frame hives. We have a fine honey-flow now from blackberry and white clover. Our principal flow is from sourwood, which blooms in July. G. F. JONES.

Elkin, N. C., May 24.

Tough Weather for Bees.

We are having tough weather for bees. They have been getting out about one day in a week, on an average, since March. We are still hopeful aud look for better weather ere long. F. A. SNELL.

Milledgeville, Ill., May 25.

First Honey "Chunk Honey."

I took my first honey of the season today. I sell in buckets—chunk honey. It is a much better way than to be fussing with sections. More honey, more money, more rest. J. H. COLLINS.

Bardwell, Ky., May 23.

Cold and Backward Spring.

The American Bee Journal is "just fine," and I believe it is the only bee-paper issued in this country which is not biased in favor of the supply dealers. The article by Allen Latham on hive-making I consider valuable to any bee-keeper who feels inclined to make his own hives. I have tried a number of them and find them much superior to any single-walled hive I can buy or make, even when protected in the spring; and for comb honey, when the outside case is used to protect the supers, they are *par excellence* in this cold northern country.

Unless the honey-flow is late this year there will be but a very light honey crop in this locality, as the unusual cold and backward spring has caused much spring dwindling, and there are but few colonies in this neighborhood which can be brought to a first-class condition in time for the white clover. My apiary consists of 31 colonies this spring, in fair condition, considering the season. N. P. ANDERSON.

Minneapolis, Minn., May 18.

Sowing Alsike Clover.

MR. O. P. MILLER: In the American Bee Journal of April 18 you say alsike clover may be sown in the spring with small grain. I have never seen any of it, but I want to try a little this spring. I know nothing about it, and your statement seems to indicate that it is an annual, needing to be sown every spring. Will you please tell me if that is so? If not, does it bloom the first year, and how long does the plant live? How do you spread the seed and what time is best to sow it?

Monument, Colo. O. H. WHITTIER.

MR. O. H. WHITTIER: Alsike clover does not need to be sown (in this country) every spring; on the contrary, one sowing will do indefinitely. But the plant dies every other year, but seeds itself; in other words, it blooms the first year. Sown about Aug. 1, from that until fall, then the next year it makes a seed crop, and the seed is on the first crop, and enough of the seed falls off to reseed the ground. The old plant dies in the fall after growing the second crop, but comes on the next spring without missing a crop.

Alsike does the best on damp, moist land, but will grow a good crop on clay land, or, in fact, any land but land that is real sandy. The seed is about half the size of the red clover seed, and can be sowed either by hand or with a seeder drill.

Another fact I have learned this year is, that while all the red clover is dead this spring the alsike sown last year looks fine, although it has been very dry and cold all spring. And with all these facts before us, it seems to me to be the most desirable clover to sow.

Any further questions will be cheerfully answered. O. P. MILLER.

Menlo, Iowa, May 14.

Heavy With Honey and Bees.

I never took bees out of winter quarters in better condition. They are heavy with honey and booming with bees. I expected them to be swarming by this time. I thought they had more honey than necessary, but they have it pretty well used up. I had some 40 or 50 pounds of brood-combs kept over from last year, and some extracted from unsealed combs, which I have fed them. Owing to the late cold and dry weather the future is an unsolved problem. J. C. ARMSTRONG.

Marshalltown, Iowa, May 11.

Early Swarm—Feeding Bees.

We had a swarm on May 9. It was a small swarm with a virgin queen, resulting from superseding. We have been feeding sugar liberally since the warm weather in March. A good rain came day before yesterday, for which we are thankful. There is a little honey-dew on box-elder this morning. J. L. STRONG.

Clarinda, Iowa, May 23.

Honey Famine in the Southeast.

We are having a honey famine in the Southeast, and bees are on the point of starvation. The blooms have come and gone, and no honey; and many barrels of sugar have been fed. Many bee-keepers are disheartened and will pull up and leave or quit the industry. The honey-plants were in bloom about 60 days. My bees got to them part of 2 days, and are now in winter quarters. J. J. WILDER.

Crisp Co., Ga., May 14.

Freezing Temperature — Fruit-Bloom Damaged.

As I write this morning the mercury in the thermometer stands at 25 degrees, about 4 feet above the surface of the ground on a hill. On the low ground it is 8 to 10 degrees colder. It is a surprise to me that the few blooms on the fruit trees seem to be filled with nectar, and the bees are carrying loads of it when the temperature is moderate enough for them to fly. The apple-bloom is just beginning to open, but I am afraid that last night damaged the opening buds seriously. No prospect of its warming up to-day. E. H. UPSON.

Cromwell, Ind., May 11.

Solving the Swarming Question.

R. C. Aikin writes on page 374: "It has always been my contention that the apiarist must be the master to the extent of controlling swarming, and making increase, when he was ready: that those who allow natural swarming are always at a disadvantage."

Yes, this gentleman speaks out loudly and clearly his contention that the apiarist must be master to control swarming, etc. And yet we are at a disadvantage. Yes, but that problem must be solved, and can be, if we look at the bee as one creation in the animal kingdom, and not idealize it, but look at it just in its reality; just as

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an animal with its own notions and tricks, and able to make its master work, run and sweat, only to be fooled and outwitted after all. At a disadvantage—yes, that's so. But the writer thinks it is not absolutely necessary but that this little creature can be domesticated just as well by man as the rest of the animal kingdom. But how, is the question that we are asked. I may not be ready yet to give an answer, but wait until I can do it in a practical, sure and safe way. P. J. ECKMAN.

Butterfield, Minn.

Discouraging Spring for Bees.

This has been a cold, hard spring for bees. May 20 we had a very hard frost for this time of year. In the morning there was a thick crust of ice on water, with a cold, piercing wind. To-day is cold and rainy. There have been very few days this spring that bees could gather pollen. This will undoubtedly prove a serious setback to bees when they should be building up rapidly. Yesterday I found a choice queen in a hive with a few scattered bees, possibly a dozen or two. The queen was wandering alone in a corner. There were plenty of stores. It is a sad condition that sort of makes a bee-keeper feel helpless. Other colonies have dwindled to a nucleus condition. Of course, colonies that were strong this spring with plenty of stores are all right. On these our hopes rely, and we hope for a better day with more favorable "elements." (A bee-keeper must always live in brighter hopes.) The cold weather this spring has rendered a bee-keeper helpless and at the mercy of the elements, as it has been too cold to open hives, and partly rendered work among the bees impossible thus far. H. H. MOE.

Woodford, Wis., May 22.

Fine Prospect for Honey.

I have 275 colonies of bees, and can not do without the American Bee Journal. There is a fine prospect for honey this year. W. J. DAVIDSON.

Dinuba, Cal., April 25.

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Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

J. H. M. COOK
70 Cortlandt Street, NEW YORK, N. Y.

The Oldest Supply-house in the East, and only Reliable Goods sold.

10 cents brings sample jar by mail.
17A13t Mention the Bee Journal

FOR SALE

Italian Queens. Untested, 55c each; Tested, $1.00 each; or 3 for $2.50. Money order on Canton, Mo. W. SIMPSON, Meyer, Ill.
22A2t Please mention the Bee Journal.

For Sale

50 to 75 cases of two 5 gallon second-hand Cans each. Clean and in good shape. Enquire of C. BECKER, Pleasant Plains, Ill.
22A4t Please mention the Bee Journal.

ITALIAN BEES FOR SALE

I have 50 colonies of all Italian J. L. Strong stock and Quirin's. All are in good condition in new Danzenbaker hives. Price $4 50 per colony f.o.b. here. Satisfaction guaranteed.

BERT GANDER,
23A4t PANORA, IOWA.

3-Banded Italian Queens

J. P. Moore or my own strain. My apiary is stocked with thousands of choice drones that are not kin to my breeding queens.

Queens, $1 each; dozen, $10

I guarantee satisfaction, and superior honey-gatherers. W. M. Parrish,
23Atf R. R. No. 8. LAWRENCE, KAN.

Mention Bee Journal when writing.

FASHION BOOK FREE

I will send you my handsome new fashion book which illustrates 500 of the latest styles. It is a valuable book and every woman owning a sewing machine should have one. It also gives **12 ILLUSTRATED LESSONS in Sewing & Dress Cutting.**

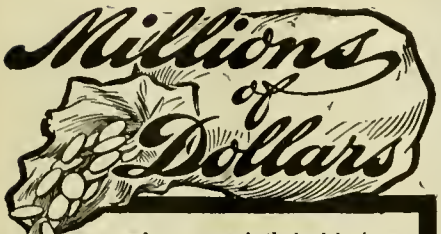
HOW I DO IT I publish *The Home Instructor*, an illustrated home woman's magazine and I want your name on my subscription list. *The Home Instructor* is bright, entertaining, clean and instructive, just the sort of paper you should have in your home. It has departments for every feature of home life, and prints the choicest fiction every month. Every issue has several pages devoted to latest fashions.

MY SPECIAL OFFER Send me 25c and I will send you *The Home Instructor* for two years and will send my big fashion book to you free Address

A. OTIS ARNOLD, Quincy, Ill.

Mention Bee Journal when writing.

"It is continuous advertising that impresses the public with the stability of a firm."



are made every year in the book business. Every family, rich or poor, must have books. During the last few years, $7,500,000.00 have been expended for Modern Eloquence, $12,000,000.00 for Stoddard's Lectures, $21,000,000.00 for the Century Dictionary, and the tremendous sum of $44,000,000.00, covering over half a million sets of the Encyclopædia Britannica. These books were sold by subscription in American homes and sales are still going on.

We have a subscription publication which sells more readily than any of the above. The demand is already so tremendous that more capital is required to swing it, or get behind on orders. Profits are enormous, several times savings bank interest.

We have arranged a plan whereby

Any Progressive Man or Woman Can Share These Profits

becoming stockholders in a profitable business, based on twenty years' experience. Remember, the success of this publication is not away off in the future—it is not prospective, but it is a success at the present time and growing in demand every hour. Sales of this publication at the time of publishing this advertisement

Often Exceed $2000 a Day

This is an exceptional opportunity for those of small means to get in on the ground floor in a business which legitimately pays large dividends and is as solid as the Rock of Gibraltar. It cannot be held open for long as the response is certain to be so great that we shall have all the capital we need to increase the number of our presses and secure stock to be turned out in completed books, which are selling like wildfire.

You owe it to yourself to investigate this opportunity. You will never have a chance like this again to become

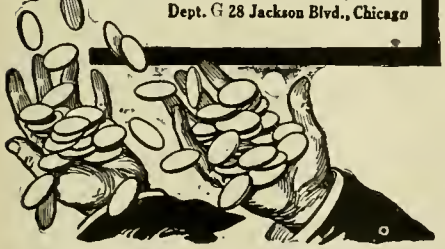
Part Owner in a Mammoth Publishing House

which is already in successful operation, already earning big dividends, and which is led to sell a small amount of its stock simply because the business is already so tremendous as to exhaust the working capital. But if you would grasp this opportunity you must

Write Quick—Only a Few Can Come In

Address your letter to me personally, like this—

W. B. Gilbert
Dept. G 28 Jackson Blvd., Chicago



BEE-SUPPLIES

PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

Now is the time for you to buy your Bee-Supplies. We manufacture Bee-Hives of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

Mention Bee Journal when writing.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove.
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich.

Patented May 20, 1879. **BEST ON EARTH.**

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$ 3.25	$ 6.00	$ .85	$ 4 50	$ 8 00	$ .95	$ 5.00	$ 8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00	Select Caucasian Breeders	$ 3.25
Select Golden Breeders	3.00	1 full colony without queen in 8-frame dovetailed hive	6.00
" 3-band "	3.00		
" Carniolan "	3.10		

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

American Bee Journal

BE GOOD TO YOUR BEES

Suppose a man should build a house for you with low roofs, so low you would have to stoop to walk around, the stairs steep and rickety, the windows small, the doors so narrow you could not walk through them without being squeezed, bumps and bruises right and left, nothing fitting, nothing right. WOULD YOU LIVE IN A HOUSE LIKE THAT? Well, I guess not.

And yet some bee-keepers expect their bees to do good work in hives that are made wrongly at the outset, constructed of poor material with incorrect bee-spaces, the lumber rough, encouraging comb-building and propolizing. What do the bees do under such circumstances? Why, they do the next best thing which is to set about to make over the hive—just what you would do in the case of the poorly constructed house. They try to correct the human mistakes made in the building of the hive. The men who have constructed the hive have made a botch of it, and the bees instinctively try to improve upon their work. Bees cannot make hives and honey, too. Lewis hives are made scientifically right from the time the first board is planed until the last nail is driven. Give your bees Lewis hives made of good, clean, smooth lumber, the parts fitting like a watch, every bee-space just right. This insures returns, real returns for your money invested in bee-goods.

Thousands of Lewis Hives, Millions of Lewis Sections now on hand in the warehouses of the Lewis Company and their distributing houses as given below.

DISTRIBUTING HOUSES

ENGLAND—E. H. Taylor, Welwyn, Herts.

FRANCE—Raymond Gariel, Paris, 2 ter Quai de la Megisserie.

CUBA—C. B. Stevens & Co., Havana. 19 Oficios C. B. Stevens & Co., Manzanillo.

CALIFORNIA—The Chas. H. Lilly Co., San Francisco, 141 Spear St.

SOUTHERN CALIFORNIA—Paul Bachert, Lancaster.

Doyle-Barnes Co., San Diego.

Fallbrook Co-operative Ass'n, Fallbrook.

COLORADO—Colorado Honey-Producers' Association, Denver.

Arkansas Valley Honey-Producers' Association, Rocky Ford.

Grand Junction Fruit Growers' Association, Grand Junction.

Robert Halley, Montrose.

IOWA—Adam A. Clarke, Le Mars.

Louis Hanssen's Sons, Davenport.

W. J. McCarty, Emmetsburg.

ILLINOIS—York Honey and Bee-Supply Co., Chicago, 191 E. Superior St.

Dadant & Sons, Hamilton.

INDIANA—The C. M. Scott Co., Indianapolis.

MICHIGAN—A.G.Woodman Co., Grand Rapids

MINNESOTA—Wisconsin Lumber Co., Minneapolis, 432 Lumber Exchange.

MISSOURI—E. T. Abbott, St. Joseph.

OHIO—Norris & Anspach, Kenton.

OREGON—The Chas. H. Lilly Co., Portland.

PENNSYLVANIA—Cleaver & Greene, Troy.

TEXAS—Southwestern Bee Co., San Antonio, 438 W. Houston St.

UTAH—Fred Foulger & Sons. Ogden.

WASHINGTON—The Chas.H.Lilly Company, Seattle.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
The
American Bee-Keeper
for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year, One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
Dept. B. JAMESTOWN, N. Y.
[Established 25 years.]

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will **SAVE MONEY BUYING FROM ME.**
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** hred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 9.—Very little honey on the market of any kind. Prices are therefore nominal. A little choice white clover comb sold at 17c, and would bring that at present, but supply seems to be exhausted; even with this scarcity there is no demand for No. 2 grades. Extracted, white, 7@8c; amber, 6@7c. Beeswax in good demand at 32c. R. A. BURNETT & CO.

CINCINNATI, May 23.—There is no material change in the honey market at this writing. Extracted honey is not moving so rapidly as it could, owing to the cool weather. We quote amber in barrels at 5½@6½c; fancy table honey in crates of two 60-pound cans at 8@9c. For choice, yellow beeswax, free from dirt, we are paying 31c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, May 25.—The honey market has been quite brisk for this time of the year. The continued cold weather has made both the comb and extracted honey sell much higher than usual. A number of odd lots have been cleaned out of the market. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm at 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 21.—White comb honey is practically cleaned up, and there is very little demand at this time. There is some dark and mixed comb on the market, but no demand to speak of, and some of this will have to be carried over until next season, or sold at a sacrifice. Therefore we cannot encourage shipments of off-grades or dark honey at this time. Extracted honey is in fair demand and prices are ruling firm. There is very little new crop arriving as yet from the South, and while it is rather early, we doubt whether we will have any large shipments from the Southern States this season, as we fear there will be a short crop, judging from the reports we are receiving. There is quite a good stock of last year's crop still on the market, sufficient to last until the new crop from various states arrives. There is no change in price as to extracted honey since our last. Beeswax firm and likely to remain so for the next 2 months.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, May 4.—Receipts of comb and extracted honey are light; in fact, the market is almost bare. The demand for comb honey is good, but for extracted is rather light. We quote: No. 1 white comb, 24 sections, $3.25; No. 2, $2.75; No. 2 amber, $2.50 to $2.75. Extracted, white, 8@9c; amber, 7@8c. Beeswax, 50c.
C. C. CLEMONS & CO.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, May 21.—The market on fancy white comb honey is entirely bare. No. 2 is selling slowly at 12c. Extracted, light amber, brings 5½@6c. Beeswax is selling here at $35 per 100 pounds. C. H. W. WEBER.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.
Mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

POOR HONEY CROP
in 1906, but we sold in Michigan
1,143,000 LEWIS SECTIONS
WHY?

Remus, Mich., Feb. 25, 1907.
A. G. Woodman, Grand Rapids, Mich.
Dear Sir:—I use **Lewis Sections** exclusively; there are none better—the only perfect "V"-cut section that has come to my notice. They fold without moistening. E. D. TOWNSEND.

5 car-loads now in immediate shipments. 74 freight and 55 express trains daily. Advanced Bee-Veil, postpaid, 50 cents.

A. G. WOODMAN CO. Grand Rapids Mich.

"In every country the successful advertiser is the continuous advertiser."

BEESWAX

We are always in the market to buy Beeswax, and pay the highest market prices. We want Beeswax from the bee-keepers direct.

DADANT'S FOUNDATION

IT EXCELS

Wherever you are you can get our goods. Write us and we will either make you prices or will tell you where you can get our Foundation nearer to you. We have Agents everywhere.

BEE-SUPPLIES

We handle every kind of Bee-Keepers' Supplies, and only the **very best.**
Write us before selling your Beeswax or buying your season's Supplies.
Send for our Catalog.

DADANT & SONS, Hamilton, Ill.

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.
DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.
SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville. Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S. S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobeli, Glenwood.

47th Year June 13, 1907 Number 24

AMERICAN BEE JOURNAL

Officers of the Worcester County, Massachusetts, Bee-Keepers' Association

BURTON N. GATES, President.

F. H. DRAKE, 1st Vice-Pres.

C. H. GOODELL, 2d Vice-Pres.

A. H. ESTABROOK, Sec.-Treas.

(See page 502)

THIRTY-TWO PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
13 "	10 "	500 "	10 "
26 "	20 "	1000 "	20 "
52 "	30 "	2000 "	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
118 W. Jackson Blvd., CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33. MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

HOW TO PAINT

Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. **"Everybody's Paint Book,"** written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do **their own painting.** It gives practical lessons in plain painting, **varnishing, polishing, staining, paper hanging, kalsomining, etc.**

It also tells how to **renovate furniture** and gives many hints on artistic work for **decorating a home.** Precise directions are given for mixing paints for all purposes.

If farming tools and farm vehicles are kept painted, they will last twice as long, and anybody can do the work with the aid of this book. It is handsomely and substantially bound in cloth. A copy will be sent postage prepaid on receipt of price, **$1.00**

SPECIAL OFFERS

For $1.60 we will send the above book and the Weekly American Bee Journal one year; or for $1.40 we will send the Paint book and a Standard-Bred Untested Italian Queen. Address

GEORGE W. YORK & CO., 118 W. Jackson Blvd., Chicago, Ill.

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6 50. Tested, $1.00, or 6 for $5.50. 2-frame nuclei with Young Queen after June 1, $2.00. GEO. W. BARNES.

15A26t Box 340. Norwalk, Ohio.

Mention Bee Journal when writing.

QUEENS - ITALIAN - QUEENS

and bees from Root's Red-Clover stock and Golden Italian Queens. Better than ever.

Untested	60c	each; six,	$3.50
Selected untested	75c	" "	4.00
Tested	$1.00	" "	5.00
Selected tested	1.25	"	
Two-frame nuclei with untested queen	2.0		

Orders filled in rotation. Send orders to

E. A. SIMMONS, Greenville, Ala

17Atf Please mention the Bee Journal.

American Bee Journal

PURE ITALIAN BEES FOR SALE

Full colonies, in up-to-date hives; Nuclei and choice Queens.

Hershiser Wax Press and other Lewis Bee-Supplies. Good Goods and Prompt Shipment.

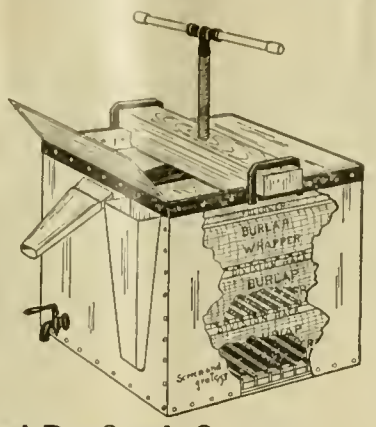
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ Send for list of Slightly Damaged Goods to select from at Reduced Prices. Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

SOLID GOLDEN QUEENS

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JOHN W. PHARR, Prop., Berclair, Texas.
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By the Bee-Crank

When your goods come to hand and you open them up and find the things that you wanted most are missing, and in their place a nice letter from the dealer, telling you that they "will follow soon," what can you do? Wait until they come. It is only a small matter, of course, but it is the small things that get on the nerves.

I make a specialty of not only *prompt* shipments, but *complete* ones. I keep the goods ahead, and it is a very rare thing indeed when I am not able to ship an order in full the day it is received. And it is very carefully packed to eliminate possibility of damage in transit.

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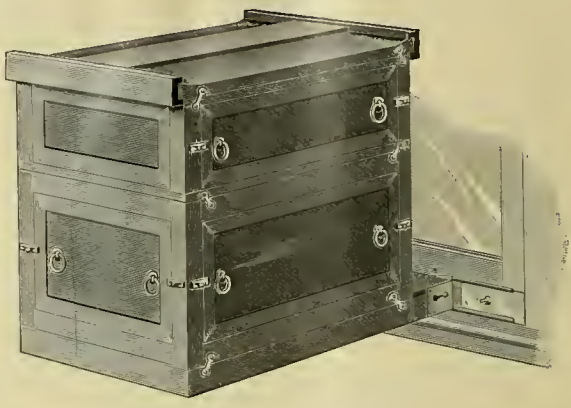
Trade Notes
The A. I. Root Company, Medina, Ohio

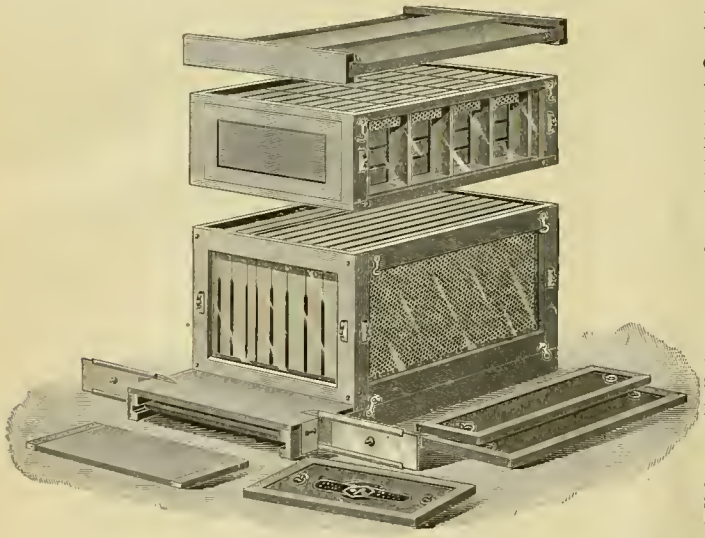
ROOT OBSERVATION HIVE

In recent years there has been an ever-increasing interest in bees as a subject for nature study in the schools, and a corresponding demand for observation hives to facilitate the study of bees at work, without exposing the student directly to them, as is necessary with ordinary hives. To meet this demand we offer several styles and sizes of observation hives. These are made with skeleton frame, with glass in sides and ends of the brood-chamber, and in sides only of the super. Shutters are provided to cover the glass. These shutters have brass rings to handle them by and brass buttons to hold them in place. Brass hooks are also provided to hold the several sections of the hive together. The hives are finished in the natural wood, oiled and varnished, and altogether they are very attractive in appearance. We furnish them regularly in 8-frame, Langstroth depth. The super is fitted for the 4x5x1⅜ plain section. Hives are usually furnished put together and finished. We can supply material in the flat, but it is work for a cabinet-maker who understands his business to put them up, and we do not care to furnish them in flat unless you order one complete as a model.



Observation Hive Inside a Room with Entrance under the Raised Sash.

The bottom is no longer than the hive, and a covered extension is provided to lead the bees out-doors under the window-sash or other opening provided. In the full-sized hive a colony of bees can be kept by a window the year round, or for only a part of the season, as may be desired. The work of the hive, including the building of comb in the sections, can be watched at intervals without opening the hive or disturbing the bees. For work in the school-room before a class we recommend the one-frame hive. With the one-frame observation hive it is necessary to remove the frame of bees and put in a fresh one about once a week at least, for the best results. As a rule, arrangements may be made with a local bee-keeper to provide a frame of bees each Monday morning, returning at end of week.



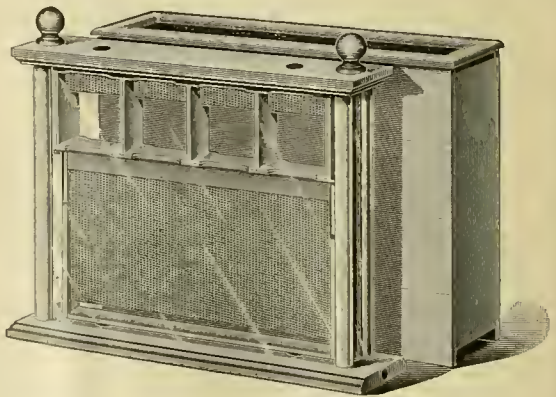
Observation Hive with Panels Removed.

We make one-frame observation hives for L. frames or for Danz. frames and a row of sections above, or the L. frame with a row of sections above. These are provided with a wood case to slip over to shut out the light when you are not watching the bees. We show this one-frame hive and the case in accompanying illustration. This consists of turned-wood corners with glass inserted in grooves in ends as well as the sides.

PRICE-LIST OF OBSERVATION HIVES

Observation Hive (8-frame), complete with super, including frames, sections, glass—and bees with queen	$15.00
Observation Hive (8-frame), complete with super, including frames, sections, glass—no bees	7.50
Observation Hive (8-frame), without frames	7.00
" Super " complete, with sections	2.50
" Hive " without super	5.00
" Brood-chamber, complete, with frames—no cover or bottom	3.75
Observation brood-chamber without frames	3.25
One-frame Observation Hive for Danz. frame, no super, with case	2.50
One-frame Observation Hive for Hoffman L. frames, no super, with case	2.50
One-frame Observation Hive for Danz. frames, with super, with case	3.00
One-frame Observation Hive for Hoffman L. frames, with super, with case	3.00

(For bees and queen in one-frame hive, add $3.00.)



One-frame Observation Hive with Case Removed.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE 13, 1907 | Vol. XLVII—No. 24

Mr. J. L. Byer, of Mount Joy, Ont., has been appointed Inspector for the district east of Toronto as far as Belleville and north, including Peterboro and Victoria counties. The other inspectors for Ontario are as follows:

Wm. McEvoy, of Woodburn; Jacob Alpaugh, of Dobbinton; James Armstrong, of Cheapside; H. G. Sibbald, of Claude; and M. B. Holmes, of Athens.

We congratulate Mr. Byer upon his new position, and also the bee-keepers in his district upon the appointment of so capable a bee-keeper to inspect their apiaries.

Darwin's Nationality.— We have received the following referring to the nationality of Charles Darwin:

MR. EDITOR:—On page 430, Burton N. Gates says that Charles Darwin's volume on the earthworm "is a noble example of the German spirit in American research." Does that mean that Darwin was an American?

E. J.

It is not safe to say exactly what may have been meant, but at any rate Charles Darwin was an Englishman.

A Traitor to Bee-Keepers.—We have received a communication from Mr. Jas. A. Stone, Secretary of the Illinois State Bee-Keepers' Association, and also a member of that Association's Legislative Committee. It seems that a discovery was made while attempting to secure the passage of certain Bills in the interest of bee-keepers, and the following tells about it:

BEE-KEEPERS, TAKE WARNING!

What shall we name him when we find a "traitor in the camp of Israel?" For what can we call him but a traitor to bee-keepers, when he has done his very best to prevent legislation in their favor? He says in quite a lengthy letter to the chairman of the committee in the Senate—before whom our Foul Brood Bill was to pass—that he is "the largest bee-keeper in the State of Illinois," and he "does not want a foul brood law." He "can see after his bees himself." Also says, "It is a combine that are asking for the law, that will permit them to burn a man's beehives so they can sell him more," etc.

When the Foul Brood Bill was to come before the Agricultural Committee in the Senate, the committees representing the Illinois State Bee-Keepers' Association were there. When the Bill was read before the Senate Committee, and the chairman allowed our members to be heard, he said: "We will postpone action on this Bill one week, till this committee has heard a letter from a bee-keeper, that I have at the hotel."

That afternoon we had an opportunity to read the letter. We surprised the senator who held the letter, by telling him the author of it before he named him to us.

That evening we sent out a few letters to our friends, telling them the condition, and how anxious some of the Senate were to hear from them, and it resulted as follows:

One week from that day we were at the Senate again, with a stenographer in readiness to get a verbatim copy of that letter.

When we told the chairman of the Senate Committee we wanted to be present at its meeting, he answered, "We can not meet today; but that letter will not be read, and we will report your Bill out favorably."

We heard no more from that letter either in the Senate or House. The Bill passed the Senate, but was defeated in the House on its passage; the same old objection—"Don't like to create a new office."

The warning, we think, ought to be given to bee-keepers is this: Be careful what you buy of a bee-keeper who is afraid of the foulbrood law as we offered it in the last session of the Legislature (see page 17 of our 6th Annual Report.)

"No rogue e'er felt the halter draw,
With good opinion of the law."

We have mentioned no names, but any member of our Legislative Committee, or of the committee to draft our Bills, can name this party if asked to do so. But our advice is to treat him as the Legislature learned to do, viz.: As an adulterator who did not want a law that prevented him from selling his goods.

JAS. A. STONE,
Sec. Ill. State Bee-Keepers' Association, and one of the Legislative Committee.

We thought at first that we might make an extended comment on the foregoing, but perhaps it is unnecessary, as Mr. Stone has made it very plain. It is almost unthinkable that there could be, in the ranks of bee-keepers, one who would do what the "traitor" did, to whom Mr. Stone refers. Surely, he should be denied membership in any bee-keepers' organization, for he has clearly shown that he is not in sympathy with the objects of such organization, but, on the contrary, is an enemy.

We suppose Mr. Traitor *thinks* he has succeeded in preventing legislation, but his day of reckoning will certainly come. In fact, it seems that already some people are "getting onto him" as an "adulterator." Such have been discovered before, among bee-keepers, and then their "days were numbered" as bee-keepers.

It is to be hoped that at the next session of the Illinois Legislature bee-keepers may get all they ask for, and thus be in line with those of other States where needed laws are being enacted to prevent the spread of disease among bees.

Worcester Co., Mass., Association.— There are in Massachusetts two bee-keeper's associations, of which the Worcester County Association claims the lead in activity. It is the older of the two, and has an active membership of nearly 100. The meetings are held once in each winter month, on the second Saturday, in Horticultural Hall. All proceedings are open to the public and are largely in the interest of the general welfare. Once each year, they hold, with the State Board of Agriculture, an Institute and all-day session—an occasion of the gathering from over New England of the prominent bee-keepers. The Institute for this year was held in February as reported on another page of this issue.

Membership of the Association is not limited to those of Worcester County nor the State, but any one interested in New England is eligible to membership. One fee, 50 cents,

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paid at the time of joining is all that has been required of all who have joined thus far. This low fee maintains the high standard through the courtesy of the Worcester County Horticultural Society, to whom is due many a thank for the free and unconditional use of their building. If interested, and you desire to join this society, to insure that you are kept posted on all matters apicultural in the section of the country—to insure getting all notices, and to have the benefits of a progressive group of bee-men—write to the Secretary, Mr. Arthur H. Estabrook, care Clark University, Worcester, Mass.

The meeting held last September, in the above-mentioned hall, was a 3 days' "Bee-Show"—an exclusively bee-keepers' affair, not for the benefit of the supply-men nor for the honey-market controllers, but a purely educational show, for the direct edification of the public and the producer—the source and the demand. It was a success; it drew the attention of the best bee-keepers and those interested in progression, from all parts of the country. Another will be held next fall. All interested can gain information through the press or direct from the Secretary. They are anxious to reach all interested in the Association and its aims. If you wish to become a member, or if you want the announcements, notify the Secretary. It is believed that the Association can help you to promote yourself. Ask what they can do for you.

The following are brief sketches of the officers of the Association:

PRES. BURTON N. GATES.

Mr. Gates was born and brought up in Worcester, Mass., and went through the public schools there, entering Cornell, Class of 1905. Left Cornell to enter Clark University, from which he graduated in 1905 with degree of A.B., taking in 1906 his degree of M.A. During the past year he has been an assistant teacher in biology in Clark University.

He has kept bees for some 17 years, keeping them more for study and the pleasure of working with them than for pecuniary profit.

Mr. Gates is of a modest, kindly nature, and enjoys the blessings of a delightful home in a pleasant part of Worcester. He is an indefatigable worker, and since he is a young man we can confidently look for important work along apiarian lines from him in years to come.

1ST VICE-PRESIDENT F. H. DRAKE.

Mr. F. H. Drake, President for the year of 1905, and Vice-President the succeeding years, is one of the progressive members of the Society. Mr. Drake lives in a good honey-country—East Brookfield—where he produces an A No. 1 quality of comb honey. The demand is greater than the product of his apiary of from 25 to 30 colonies.

Mr. Drake writes that he first became interested in bees from the time he saw a row of box-hives in a neighbor's yard when a boy. In 1900 he traded a home-made hive for a swarm, from which he made immediate increase. The lowest average of 23 pounds per colony in a poor year is more than outweighed by the best average of 86 pounds per colony. These figures are an indication of the possibilities in Massachusetts.

Mr. Drake is profiting by some of the things recommended in the meetings of the Association, which he says is the source of the latest and best information in bee-keeping. For instance, he was one of the earliest to recognize the advantage of the black-paper method of wintering bees. While the bee-keeping on the Drake farm is but a side factor in the big business, the owner finds that it pays both from the bee-keeper's standpoint, and from the market gardener's standpoint. Bees are infinitely valuable, yea, quite indispensable to the fruit-producer and to the cucumber man, we all know. The combination is most profitable.

2D VICE-PRESIDENT CHAS. H. GOODELL.

Mr. Goodell is one of the oldest bee-keepers of the Association, and has had bees since a boy. His purpose has not been to keep bees for the profit as much as for the things which he can learn; he has therefore been an experimenter and investigator, has tried the various races of bees as they have been imported, has examined the new theories and inventions as they have appeared, and has given freely to the Association the things which he has learned. He cannot be without a colony or two of bees, although he has tried it at times.

The older readers of the bee-press will remember the writings of Mr. Goodell, which appeared in the years previous to 1890.

Besides being one of the charter members of the Worcester County Bee-Keepers' Association, and its first president, Mr. Goodell has been president in succeeding years. On several occasions he has read papers before the Association. At the last institute meeting his subject was on the "Relations of Flowers and Bees."

At present Mr. Goodell has at his home a number of fine colonies of choice bees. He is prominent in the City Council, was secretary to the late Senator Hoar, and has been a member of Congressional Committees. He is a member of the Bar.

SECRETARY A. H. ESTABROOK.

Arthur H. Estabrook, the Secretary and Treasurer of the Association, is one of the newer of the bee-keepers, but is an ardent student of biology. For several years he has been connected with Clark University; he graduated in 1905 with the first class from the Collegiate Department; in 1906 he took his degree of M.A. from the University, in Biology, and is now working for the degree of Doctor of Philosophy.

Mr. Estabrook lives in Leicester, where the pasturage is similar to that of Mr. Drake's country, before mentioned. It is Mr. E.'s intention this summer to carry on some investigations on bees, which, if significant, will be published. He has just published a paper on "The English Sparrow Problem, and its Status in America."

Northern California Bee-Keepers will meet in convention in Sacramento, on June 24. The organization was formed in January, and a 2 days' convention held. We received no report of it, hence no mention was made in the American Bee Journal.

Mr. B. B. Hogaboom, of Elk Grove, Sacramento Co., Calif., is the Secretary of the Northern California Association. Any other information desired by bee-keepers in that section of the State can be had by addressing Mr. Hogaboom.

We would be pleased if convention secretaries would send us not only notices of future meetings, but also at least brief reports of conventions held.

Conducted by EMMA M. WILSON, Marengo, Ill.

A Successful Sister

Massachusetts sisters are probably proud of one of their number of whom it is reported in the American Bee-Keeper:

Mrs. Richardson, secretary of the Massachusetts Society of Bee-Keepers, told of her trials in getting a start in apiculture, and gave her hearers frequent occasion for merriment. Her remarks were the more entertaining in that she had surmounted the difficulties and has made a financial success of bee-keeping.

An Original Swarm-Shaker

MY DEAR MISS WILSON:—Since you so kindly invited me to come again, here I am, and I have spent much time the past months reading the back numbers of both the American Bee Journal and Gleanings. I found lots of good things in both, but the controversy over "shook swarms" amused me, for I feel that I have the honor to be the original "shook swarmer" or "swarm shooker." Of course, those men haven't followed my method exactly, or adopted my way, but still I feel that the honor belongs right here. You see, I used to be terribly afraid of bees—no wonder when a "dead" bee fixed me the way it did. But that is another story. And so when papa left me in full charge of his apiary one day, with careful instructions how to proceed in case of a swarm, I just hoped and prayed that those bees would behave themselves.

In order to discourage any swarming ideas, I attached the hose and gave the hives a good wetting. Then I decided to bake a cake. So after a delay in deciding what kind to make, I started in and was putting it in the pan when I heard the awfullest roar; and glancing through the window I saw the air full of bees. They were swarming all right. Well, I shoved that cake into the oven and shut the door. Say, it was a devil cake, and really I felt devilish right then, for I was half scared to death at the prospect of plenty of stings. But it couldn't be helped; I was in for it.

So I went out and looked for the bees. There they were, nicely clustered in a little plum tree about 7 feet from the ground. There must have been a bushel. So I put on a hat and veil, lit the smoker, got the hive and an old sheet ready, put on rubber gloves, and I was ready. No I wasn't, either, for how was I to keep those bees from crawling up my, my sh—well, my hose? I gave up that problem, for the bees were getting restless, so I carried out the sheet and spread it under the tree. Buzz in my ear, and I ran for the house. Then I carried out the hive and set it under the cluster. "Buzz" said a bee, and away I flew. Again mustering my courage, I went back and arranged the frames and hive nicely, but I had to fly again—that awful buzz made me nervous.

Now about 6 feet from the tree where the

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swarm clustered was another low, bushy tree—a dandy place to hide from an angry bee, because you could bury yourself in the green branches. So I got our long-handled rake, and hiding myself in this bushy tree, I reached over until I could hook the rake over the limb where the bees clustered, then I *shook*, and down went the bees kerflop, right in front of the hive. I shook a few more times for luck, then dislodging the rake I tapped the hive gently with it. After a while they all crawled in and made themselves at home. That was my first attempt to hive bees, and after explaining my method to papa, he said it certainly should be successful, and he guessed they would be willing to stay almost anywhere after that bump. Seems to me my efforts are not appreciated as they might be, here at home. Of course, I don't hive that way any more, but don't you think I was one of the very first shakers?

St. Clair Co., Ill. SISTER ESPERANZA.

Yes, you certainly are a "shaker," or, perhaps, to use the more fashionable form of the word, a "shooker." Let us hope that the time occupied in "shaking" or "shooking" did not result in too dark complexion for that cake.

Our British Expert Sisters

In 1906 there were in England 128 examinations for experts' certificates, and we are told in the British Bee Journal the 87 successful candidates were principally ladies. The British lady bee-keepers seem to be getting the start of their Yankee sisters.

Cleaning Sections of Honey in a Warm Climate

On page 337, "Missouri" asks a number of questions on the subject of cleaning sections. *No. 9* is a serious one with some of us, and as Dr. Miller answers it only by telling him to clean in cold weather, which is not always feasible, may I give him another answer through your column?

A damp cloth is not much good as it smears the knife. I always keep a little pot of lard on the table, and slightly grease my fingers and knives before I begin to clean; this keeps the propolis from sticking badly. Then I always use 2 knives—a butcher-knife with a curved point to clean the sections, and a common kitchen-knife to clean this knife with. A sharp stroke will clean the propolis from the greased knife much more easily than a cloth.

For taking off honey that has run out, I always use a cloth and cold water, as Dr. Miller does. MISS COLORADO.

Many thanks for your experience. Truth is, what is especially needed is such experiences in warmer latitudes where cold weather can not always be had to order. (In this locality we can always have weather so cool that propolis will be brittle, if we wait for it.) I have used the butcher-knife with the case-knife to clean it, but much prefer the cabinet scraper, as it takes hold so much better than a knife will, and does so much better work. Just try for yourself and see if you don't find it better.

It must be admitted, however, that my experience is in weather when the propolis is generally brittle. If very warm, it might not be so easy to clean off the scraper.

It might be well to caution those who use grease on the fingers to use it *very sparingly* else the wood of the sections may be marred by grease-spots.

Lessons from Losses of Bees

I have been comparing notes with a few fellow bee-keepers in my own State and elsewhere, and when I find how others have fared, my own loss—20 percent which includes the dead, the queenless, and the very weak colonies—seems small in comparison.

I have had 2 reports from Lincoln, Nebr., which show heavy loss. One is from an extensive bee-keeper who handles pure Italians only. He reports a loss of two-thirds of all colonies. My own loss was mostly amongst the Italians. Carniolans and Carni-Italians are without doubt better able to withstand severe conditions.

A party writing from Kansas City reports the loss of all but 2 out of 9, and these 2 are weak. So it goes.

One of my correspondents is in the northeast part of the country. He is not a small bee-keeper, having more than than 500 colonies of different kinds of bees in separate yards. He says: "Fifty percent of the golden Italians are dead, and the balance are weak; 25 percent of the leather-colored Italians are in the same condition; 10 percent of the Carniolans are weak, but the rest are all right."

I see the A. I. Root Co. also testify to the greater hardiness of the dark races of bees. Practical honey-producers will draw their own conclusions and act accordingly.

I have quite a variety of hives in my bee-yard, and I did not find that bees in small or medium-sized hives came out worse than those in the big ones. Some of the lost colonies were in large hives, with abundance of honey. Per contra: I wintered a few colonies on 5-inch frames with candy cakes on top, and there was *no loss* amongst these, although I had removed the remains of the candy and given frames early in April, which I surely would not have done if I had foreseen such a "spell of weather" as we were to have through April and much of May. Therefore one lesson for me is to be *very slow about changing the winter arrangement for that of summer.* I had supposed that lesson learned.

As to forage for the bees, there has been very little here so far. Fruit-bloom was a failure. Much of it was "nipped in the bud," and did not open at all. There are very few dandelions here. The first real support the bees are to have is likely to be yellow sweet clover, which is a little behind time, but is looking nice since the heavy rains we have had for the last week. A few of the earliest blossoms are likely to open within a week.

I am going to feed the bees some and "bide my time," with good courage.

(MRS.) A. L. AMOS.

Comstock, Nebr., June 1.

BY W. A. PRYAL, Alden Station, Oakland, Calif.

New Use for the Auto-Bike

I was out to see my friend Otto Byke the other day. He was in the back yard overhauling what he called his "flying-dutchman." I asked him where he was going, and he replied, "Down south."

"And going to take that auto-bike with you?" I ventured to question him.

"No, not exactly; it will take me."

"And what do you expect to do down there?"

"Well, Bill Beeman has asked me to come down and run his honey-extractor this season. I have planned to harness the auto-bike gas-engine to the extractor, and between us we shall have a sweet old time making the honey fly."

"You don't say!" And I wondered if some other fellow would steal his idea and get it patented.

Bee-Glue

Bees must be insane at times. Just look at the crazy manner in which they will daub the inside of their hive all up with nasty, sticky propolis. If the stuff were used intelligently, I would not mind it a bit. But when it comes to shoving the dauby article in hunks in unnecessary places on hive and frames, I simply give up and pronounce the bees "crazy." And there is so much of it. May be it is my location; perhaps the poor little pets get it stuck to their feet and use the inside portions of the hive as a door-mat to wipe it off. But the trouble of getting the propolis off one's hands—that's what *sticks* me: the nasty, sticky stuff! I've pulled, and I've scraped, and perspired; the gum has flown in my eyes, got into my pockets; I breathed it all day and dreamed of it by night, as the odor of it haunted my wakeful as well as my sleeping hours. And it has besmeared my hands so that it would not come off even when I tried grease, oil and soap of fine and coarse degree. My hands are not beauties, 'tis too true, but, then, who wants to go to a select affair in the social line with hands stained and daubed with a disagreeable yellow? Why, people would think

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that—but never mind what they might think I got on them.

There is a big blessing coming to the man who will discover an infallible and quick propolis-eradicator. Perhaps it might be better to produce a strain of bees that have not the propolis-instinct as a predominant feature.

Commercial Letter-Writers

I received two bee-papers to-day; they are good papers and true. One was Gleanings in Bee-Culture; the other the "Old Reliable." I could not help observing letters reproduced from the files of the business or honey department of the A. I. Root Co. that were printed in the former paper; and all about honey that seemed to have mysteriously changed its character while being shipped between two points. Queer, but rather uninteresting to the average reader. The other paper had a lot more about honey—a lengthy correspondence from honey-merchants. This batch was interesting to all. And there are others, too, in both the reading and advertising columns. But I was going to state that these two numbers would make a good "Ready Letter-Writer" to give to the children as models of business letters.

The Hoffman Frames

I like the Hoffman frames very well, especially when I am able to manipulate them once or more during the year, but woe is he who has to tackle a lot of them in hives that have not been opened for several years! The amount of good, "healthy" propolis the bees will pile on and about these frames is a caution. I have recently been using some of these frames that have the "square" edge, and I like them much better than I do when one edge is beveled—that is, when one edge on each side of a frame is so made. At first I believed that when the flat or square edges would come together, the bees would be needlessly killed. I now find that one does not have to be much more careful in handling these frames than when he is manipulating the other kind. But I have been thinking, will we always use the Hoffman frame? I rather think not. Like lots of other things introduced into our apiaries in times gone by, we came to discard them in the end, for good and sufficient reasons.

I am just in receipt of a letter from Mr. R. M. Spencer, Ventura County (this State), wherein he says that he is transferring his combs from the Hoffman frames into plain frames of his own. More than this he saith not. Still, per contra, last week I heard of a bee-keeper up the Sacramento river who ordered 3000 of these frames from a San Francisco bee-ware house. I wonder if he, too, will be discarding them, after a while.

"It is continuous advertising that impresses the public with the stability of a firm

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Swarming in France and Here.

The carefully observed and collated facts about swarming which Adrian Getaz copies from the French ought to be of decided interest. Different flavor, for one thing, from what we get this side. Several years and a number of apiaries drawn on. When our folks can get around to do the like, it will be in order to note how things in France differ from things in our country. Meantime we can make luminous guesses about our conditions and compare conjecture with fact. For part of the work I have records which will parallel theirs—if it were not so great a task to collate them. Have just run over my first 3 years as to the dates of swarms. Both earlier and later than theirs, and, of course, more days in the swarming period. Their extremes are from May 17 to July 4, or 49 days for the swarming period. My extremes (taking in only 1880, 1881 and 1882) are from May 12 to Sept. 5, or 117 days—much more than twice as long, not to mention their *average* duration of only 24 days. My commencement for 1881 was not normal, as I was dividing, for needed increase, everything I thought would bear dividing. But after a bit the bees struck in and would swarm some notwithstanding the dividing. Collating 1880 and 1882 together, I had 3 swarms in May, 120 in June, 126 in July, 38 in August, and 1 in September. Total, 288. Number of colonies was 56 the former year and 68 the latter. Some of my later years have been much less swarmy than these. Collating the whole great mass would reduce the proportion of August swarms. Also, if a number of other apiaries were collated with mine, the joint result would be less swarms per hundred colonies, I take it.

Only for the year 1900 and since have I marked down the time of day. Was moved thereto by what seemed to me to be the absurdity of things I saw in print about it. Sometimes the time of day didn't get put down. Sometimes a cluster is found hanging, and no one knows how long ago it came out. But I have the records of a sufficiently jolly big lot spread over 7 years. The total is 666. Queer that it should be just the number of the Beast in Revelation, but that is what it footed up. Considering our extreme climate, we might expect swarms both earlier in the day and later in the day than in France, and so it is. In the French records 8:15 a.m. is the earliest. In my records I have one at 5:05 a.m., and 2 more before 7. The latest for France is 4 p.m. My latest is 5:17 p.m.—with a doubt in favor of another colony which was hanging on the front of their hive at 5 p.m., and swarmed unseen later. Both these extra-late ones were prime swarms. About the 3 extra-early ones it was either unknown or unrecorded whether prime swarms or not. Let us now make way for the table:

Between	5 and 6	a.m	.....	1
"	6 and 7	"	.....	2
"	7 and 8	"	.....	45
"	8 and 9	"	.....	75
"	9 and 10	"	.....	129
"	10 and 11	"	.....	99
"	11 and 12	m	.....	76
"	12 and 1	p.m	.....	81
"	1 and 2	"	.....	63
"	2 and 3	"	.....	45
"	3 and 4	"	.....	36
"	4 and 5	"	.....	12
"	5 and 6	"	.....	2
Total			.....	666

I think that seeming decline between 11 and 12 is not an eccentricity, but comprehensibly all right; and 76 the true normal for the hour and temperature. All previous figures swollen by colonies that *got ready to swarm during the night*, and had to postpone till day. Practically all of these would be out at 11 a.m.

The French apiaries had only 5 percent before 10 a.m. Mine had 252, which is 38 percent. They had 22 percent between 10 and 12. I had 175, which is 26 percent. They had 56 percent between 12 and 2 p.m. I had 144, which is only 21½ percent. (This is a very striking divergence between France and the United States. Swarms in the early hours of afternoon are not superlatively plenty with us.) They had 15 percent between 2 and 3 p.m.; I had 45, which is 7 percent. They had 2 percent later than 3 p.m.; I had 50, which is 7½ percent.

Swarms naturally divide themselves into primes, afterwarms, and deserters. Some little differences of time of day would very likely appear if they were tabulated separately; but I think the difference would not be very material.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

American Bee Journal

No. 4.—Uniting Colonies and Forming Nuclei

BY R. C. AIKIN

I have spoken of a system of management that calls for the uniting of bees, dividing and making of nuclei, and of comb-building, etc. I think it will be well to give some more minute directions as to how these things may be best accomplished.

Uniting Colonies.

Under some conditions to unite strange bees is a very easy thing; under other conditions it is almost impossible without having a general row and many bees killed. During a flow, and when every bee has its sac full, all you have to do is to unite, and it may be done by setting one hive on top of another, by mixing combs or putting them together, so mixed that there can not possibly be any two crowds.

In any process of uniting the presence of robber-bees is one of the worst things that can happen; and, perhaps, the very next worst thing is empty sacs. When a flow is on, and the day is far enough advanced that both fielders and nurses are loaded with nectar, and particularly the old bees and fielders, they can be put together in almost any way that comes handy; but if sacs are not full they should be made to fill, and the less fielding and the more scarce nectar is the more pains should be used to get them all full. If there be but little or no unsealed stores, a good way is to take, say 1 to 3 or 4 tablespoonfuls of honey or sugar and make some sweetened water, thin like fresh nectar, and with this thoroughly sprinkle them.

The directions used to say, put peppermint or something in to scent the bees alike, but that is altogether unnecessary; it is of far more importance to get the sacs full—full bees do not attack anything, neither man nor each other. A podded abdomen can do little in combat; stuffed bees seem to think of nothing but to get to where they can unload, and by the time that is done the odor and acquaintance is completed. I have made thousands of unions when bees were full, and with uniform success. In my early experience I lost many bees and queens because I did not see to the full-sac part of the matter; but when properly filled all went well.

Sprinkling with cold water until they want to cluster close, to get warm, will also make them forget to fight. Exposure to cold wind until they are ready to hunt a warm place is also effective. Just so sure as you put them together without full sacs, or chilling, or a thorough smoking, there will be almost certain war. Do not forget the matter of robber-bees. If robber-bees are dipping in, the bees that belong there do not know one stranger from another—they tackle any and all.

When uniting two lots of bees, where one hive is to be set on another the work may be done very quickly and safely by putting a wire-cloth between for a day or two, or a cloth with a small hole through which they can unite very slowly, and most of it done after they have become settled after the excitement of handling is over. Outside of a time of nectar-gathering unite late in the day or evening; or, if early, do it when cool or rainy, or at a time they will not fly until they have become settled. When all are well loaded, I unite in any kind of way.

Forming Nuclei.

When one wants to make a nucleus colony, and get about so many bees in a hive to stay, that is not so easy if the work be done in one yard. Then much depends upon whether a queen or queen-cell be taken with the nucleus. If a cell, it also makes a difference whether it be ripe, or one not so far advanced. A cell that is so far advanced that the queen is moving about in it, and about to proceed to cut out, the bees will stick by it much better than a less-developed one.

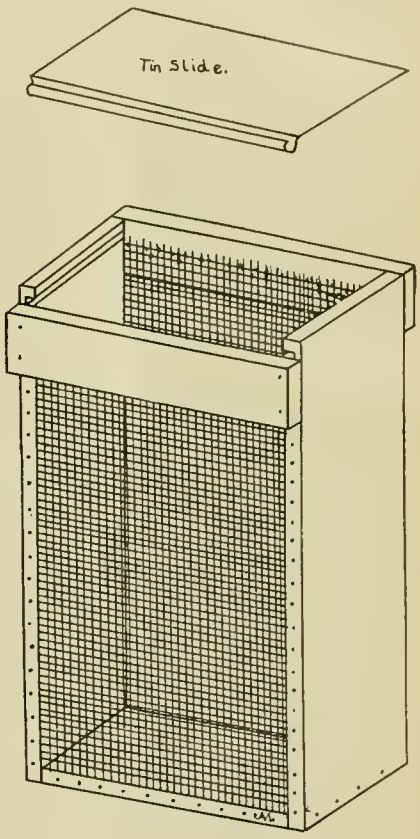
Then there is the question of the number of very young bees. Young will stay where old ones will not. I try to select combs with a large number of very young bees on it, and also take the brood that is to be with the nucleus of that well-ripened, and many bees hatching and about to hatch, and then shake in about twice as many bees as desired.

If you have a colony that has young queens just hatching, you have one of the very best conditions for making nuclei; such a colony can be divided into from 4 to 8 if they have much brood and bees. They seem to stay by their hatching queen; but care must be taken to have them remain in the hive until they are aware that they have a queen. Sometimes when put into a new (strange) hive they may rush out before they realize that a queen is with them. They will act very much as a swarm that has been hived without the queen; the knowledge that a queen is with them goes far to making them contented. In this matter full sacs also do much to help.

If you have more than one yard, the making of nuclei is a very easy matter. Suppose you go to an out-yard to work, and can get the bees necessary for the nuclei and bring them home; if so, here is the best way I have ever found:

Make some little boxes or cages as follows: Out of ½ inch or ⅜ stuff cut 2 pieces about 4x8 inches, and one piece 4x4. About ¼ inch from one end of each of the 4x8 pieces make a saw-kerf about half through the board, using a thin-bladed saw. Nail the 4x8 pieces on the ends of the 4x4, as though you were making a box, but turn the saw-kerfs in and away from the 4x4 end.

Cut 2 pieces of wire-cloth 4½x8, and fold over each end so they will be about 7½ inches long; then nail these on the 2 open sides of the box, using thin strips of wood over the wire instead of putting them on with tacks; and put a piece of wood ¼x1 inch, and



Nucleus Box or Cage.

as long as the outside measure of the box across each end over the wire-cloth, to stiffen them at the open end, nailing one flush with the ends of the side pieces, and the other dropped down until its upper or outer edge is just even with the inside of the saw-kerfs. With some small tacks, or by putting on a cleat of tin or a strip split from a broken section, nail the wire-cloth snug to the inside of these 2 cross cleats.

You now have a box 4x8 inches, with 2 wooden and 2 wire sides, a wooden end and an open end. Cut a piece of tin just wide enough to slip into the saw-kerfs in the open end of the box, and long enough so that when it is shoved clear through snug against the cleat on the opposite side, it will stick out about a half inch; then roll or bend at right angles this extra half-

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inch, which stiffens the tin and gives a finger-hold.

There are other ways of making these cages, but it will pay you to make as directed, except you may vary the size to suit your notion; but do not make it too small, for you may want to put a good many bees in sometimes. You can put a few bees into a big cage, but can not put many into a little one. Then, too, always make 2 sides of wire, and have these opposite, for then you can see what you have inside, and particularly look for a queen.

Another thing, always have that tin slide put in as directed, *full-width* of the cage, made so it is easier to get bees either in or out; they can be scooped up or shaken out. If you have a rim around the end of the box at the opening, and projecting inward, you are at a disadvantage, both going and coming.

It is a wise thing to have some of these cages always on hand and ready for use. When doing regular work occasionally you find a batch of hatching queens, and you may want to save some of them. You may have queens that you wish to save for various reasons, possibly some specially reared. You may be working a colony that can very easily spare a pint or quart of bees and not miss them; just have the cage by you and shove in as many bees as you may wish to take from the colony, and set the cage in the shade or in the sun, if not too hot. In this way, as the day's work progresses, collect bees in the cages, taking them from wherever it suits your notion as you work. A swarm may be divided in this way to populate your cages.

In a few minutes your caged bees, queenless and broodless, will get on the anxious seat. If they have not gone in with full sacs, see that they are made full—every one of them—by giving thin honey or sweet water—fill them full. Now when you find a queen you want to save, just get one of the cages and dump the bees all to the bottom, away from the tin slide; open the slide and drop the queen in. You can make more sure by dipping the queen in honey; this will fix her so she can not run, and so by the time she is licked dry the odor is all right. Do not cuddle the caged bees too much; make them think they are in hard straights, sure; and if cold enough that they want to snuggle up to each other, all the better. This is the slickest way to make nuclei you ever struck. Just take these cages to another yard and hive the contents as you would a little swarm, or dump them right into the hive. I think probably this is about the best way to form nuclei in the same yard; they can be made any time during the day, and hived late in the evening, so they get settled over night and start out in the morning to mark their new home; but the hive should have a board or special marking at the entrance.

As to how many bees to use, that depends upon the time, and what you want to accomplish. If it is just to get a queen mated to be used elsewhere later, a pint to a quart of bees will do it in warm weather. And, too, if you can put into the hive a very little patch of brood it will help to make them contented. I would recommend caging the bees at any time during the day when it is convenient, but hive them just about sundown, or, at least, late in the evening when they will not fly before morning. I have brought home these cages from out-yards and hived them after dark by dumping them in on top of the frames. I have also hived in the morning. It is little trouble, and will rarely fail to succeed, done at any time, if they are gathering nectar freely; but if nectar is scarce, so that they will be bothered by robber-bees, hive only after done flying for the day.

One thing that should always be looked after in hiving bees, whether big or little swarms, is to make them comfortable, and protected from heat and from robbers. And for little swarms or bunches I prefer to give a little brood; a patch of drone is all right, or even a small bit of any kind of brood cut from a comb and grafted into one of their combs. In making small nuclei always give them more or less comb, and also some honey.

If you wish to make small nuclei early in the summer, with a view of their building up during the season to full colonies, they should be given well-nigh a quart of bees, though in favorable seasons a pint will make a full colony by fall. For queens to supply these always have them matured in full or normal colonies, but they can be mated all right in the small colony. Never have these little colonies build cells—they will not get one good queen in 25.

Loveland, Colo.

Swarming and Section Honey

BY G. M. DOOLITTLE

A correspondent wishes me to tell, in the American Bee Journal, the best plan of working for section honey and allow natural swarming. First, I wish to say that I doubt about natural swarming being the best plan when working for section honey, as I believe that what is known as the "shook" plan of swarming is better for section honey than natural swarming. But it will do no harm to tell the readers of the American Bee Journal how I managed swarming for years, which gave me good results during my former years of bee-keeping. For years I used a plan which seemed to me to give the best results of anything known during the years when honey brought from 20 to 28 cents a pound, which was as follows:

I used every effort to bring all colonies in the apiary up to where they were in readiness for the sections about 15 days before the harvest from white clover was at its height, and, where this is the main dependence for white honey, all swarming should be finished during the next 7 days; and where basswood is the source that gives us our honey-flow, swarming should be done within 10 days before the yield from that source commences.

At that time I did not practise artificial swarming, only so far as it was necessary to have all swarming done in accord with the above. All swarms issuing previous to the 7 days before the clover bloomed, and 10 days before the basswood, were hived singly in hives containing frames of empty combs, and in 2 or 3 days from the time of hiving the sections were put on. Those issuing during the next 5 days were hived 2 swarms in a hive, where it was possible to do so, and the sections put on at once. Where this could be done, the new swarm was set on the stand occupied by another colony which had not swarmed, and such colony carried to a new stand, thus securing to the new swarm all the field-bees from the colony moved. Each swarm thus hived was given a hive full of empty comb, if I had them, and if not the frames were filled with comb foundation, and the sections put on at once.

From this it will be seen that all of the new swarms were in splendid condition to take advantage of the flow of nectar when it came. Where 2 swarms were put together, the queen belonging to one of the old colonies was put back in her old hive, when the same was moved to a new location, and the double swarm set in its place. The old colony losing its queen by its going with the swarm, was allowed to rear its own queen. Eight days after a swarm with its queen had gone from any hive the same was opened, and having ascertained that a young queen had emerged from a queen-cell, by finding one open at the end, I cut off all the rest, and thus stopped all second or after swarming.

By waiting till the first queen had emerged from her cell, I had a certain thing, when the queen-cells were all off, which is not always the case where all but one queen-cell is cut off from 4 to 6 days after the prime swarm issues, as is so often recommended in our bee-literature.

After the time had arrived when I thought all swarming should be done, I proceeded as follows with all which had not so far swarmed:

A hive was filled with frames of empty comb or foundation, and then placed on the stand of any colony which had not yet swarmed, or had been carried to a new stand as spoken of above, the colony being set close by after the new hive was so placed. All the sections were then taken off and placed on the new hive, when all of the bees were shaken off their combs and out of the old hive in front of the new one, into which they would run as fast as they were shaken down. Thus I had a colony that was ready for business as soon as the harvest commenced, as they had the queen, the bees and the partly-filled sections all in readiness for work. Previous to this nuclei had been formed so that I might have plenty of laying queens to use whenever an occasion might require.

I now took all the combs of brood from which the bees were shaken except one, arranging them in the hive the bees were shaken out of and carried them to the stand of another colony which had not swarmed. Next, I took the frame of brood which was left out and went to one of the nuclei, taking out the frame having the laying queen on it and put the frame of brood in its place. I then took the frame—bees, queen and all—and set it in the

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place made vacant for it while arranging the frames of brood. Next I put on the sections, and, having all complete, the colony was moved to a new stand and this prepared hive set in its place. Thus I had a laying queen and enough of her own bees to protect her, together with a hive filled with combs of brood and all the field-bees from the removed colony.

In a few days this colony would be entering the sections, and such generally made fully as good colonies for storing section honey as any I had in the whole apiary. The loss of bees to the removed colony put a stop to all ideas of swarming, and in about a week they had so regained their loss that they were ready to continue work in the sections again.

It will be seen that my aim was, in using these several plans, to get all the colonies strong enough to work in the sections during the best of the harvest to advantage, and still have none of them desire to swarm right in the height of the best flow of nectar. And I doubt if there is a much better way of working for section honey to-day, where the bee-keeper has only his one home yard, and the time to attend to the natural swarms which may issue up to the time he has decided that further swarming will result in a reduced yield of section honey. But where a person is running one or more out-apiaries, then some plan of artificial swarming must be adopted, or loss by swarming will occur.

Borodino, N. Y.

Report of the Chicago-Northwestern Bee-Keepers' Association, held in Chicago, Wednesday and Thursday, Dec. 5 and 6, 1906

(Continued from page 481)

Foul Brood Law.

"Is there a foul brood law framed to send to the legislature this term?"

Pres. York—I suppose that means the Illinois legislature, or it may perhaps mean any other State that has a meeting of the legislature the coming winter.

Mr. Moore—The President of the Illinois State Bee-Keepers' Association, Secretary and the Treasurer, are an executive committee who have charge of this, and they, in conjunction with some of their friends who are in close touch with politicians at Springfield, get up the foul brood law—or the bee-keepers' law, more correctly speaking— and have it introduced by some of their friends in both the House and the Senate. I don't know definitely what has been done.

Pres. York—I don't think that is an answer to the question, Mr. Moore. The question is: Is there a foul brood law now framed to present to the legislature?

Mr. Moore—I do not know of anything being done, but I know that Messrs. Smith, Stone and Becker have attended to it heretofore and probably will attend to it in the future.

Pres. York—The committee of this Association is Mr. Dadant, Mr. Wilcox, and Mr. McCain.

Mr. Wilcox—No member of the committee has said anything to me about it. I have not heard anything about it from any other source, or done anything about it myself, and I rather doubt the propriety, myself, of making any application to the Illinois legislature. I might join with the Illinois members, but I do not think the legislature of one State is in the habit of listening very much to people from other States, unless concerning some matter in which they are particularly interested.

A Member—You will remember, at the last meeting, we came to the conclusion that this matter better be done by the Illinois State Association, and this committee was appointed to work with them.

Pres. York—I think we ought always to remember that this organization covers a number of States, and that we ought not to help one State more than another represented here. Perhaps hereafter it will not be necessary for us to have a foul brood committee. We decided not to join the Illinois State as a body, and of course all of us will not be members hereafter; but there will be individual members that live in Illinois. So unless this body moves to have a committee appointed, or continues the present foul brood committee, I suppose it will not be continued. Whatever a majority of this Association says, of course, will be done, because we decide things by a majority vote. Now is there anything else on the question?

Mr. Moore—I believe it is best to take some action on the foul brood committee. I think the committee would better make a report and be discharged. I do not think any good can come of its further continuance. I would advocate, however, that as individuals we write letters, every one of us, to the members of the legislature in favor of the law that is introduced, because it is no doubt better to have a half loaf than nothing, and the thousand dollars the legislature gives the bee-keepers in this State will do them good.

Dr. Miller—I believe Mr. Moore has the right view, and, in accordance with that view, I move that the foul brood committe of this society be discharged, with thanks.

The motion was seconded and carried.

It was moved, seconded and carried, that the President appoint a committee of three on resolutions.

Pres. York—I appoint Mr. Hutchinson, Mr. Abbott and Mr. Whitney as a Committee on Resolutions, to report tomorrow.

Foul Brood.

"If foul brood is not foul brood, then what is it?"

Mr. Taylor—Something else. [Laughter.]

Mr. France—I imagine what conflicts here is the fact that the Department of Agriculture at Washington has come against this proposition. What has been known out here as foul brood is entirely a different disease from that which has been commonly known as black brood in New York State, and those two have conflicted, and the Government has been taking this matter up and decided to call both "foul brood," but to add an adjective to it, so that what is known through our country here largely as foul brood will be called "American foul brood," and the so-called New York black brood will be called "European foul brood." Unless this change was made, the laws now in existence in nearly all the States that we have upon foul brood would have to be modified; we have gone through with hard work enough to get it, and to have to do it over again would mean a good deal. So the Department has arranged it in that way. We have the two distinct diseases. If any of you have not read carefully Bulletin 79 from the Department on "Brood-Diseases"—on both European and American foul brood—I have asked that it be put in this year's Annual Report of the National, where you will have it on file and can read it.

Mr. Moore—That is my question. If foul brood is not foul brood, then what is it? If I can read correctly, it says that the *Bacillus alvei* is not found in foul brood, or American foul brood, to use this nomenclature. If that is true, what becomes of Howard and other scientists who say that the *Bacillus alvei* was the characteristic? We have not heard from them. We have not heard the last word. Have they all been mistaken? and what has become of the American foul brood, or the old-fashioned foul brood, as we know it?

Mr. France—In the demonstrations that Dr. White, from Washington made, there was this marked difference: Our American foul brood would not develop on the same cultures as the European foul brood, showing a decided difference between the two. The New York black brood or European would develop nicely upon beef as a basis, whereas our other will die—make no attempt to live.

Mr. Moore—We have been accustomed to thinking of *Bacillus alvei* as the germ of foul brood. Shall we think of *Bacillus alvei* as the basis of black brood?

A Member—Exactly.

Mr. Moore—What takes the place in

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American foul brood that was occupied by *Bacillus alvei?*

Mr. France—*Bacillus larvae.*

Dr. Miller—I am not sure whether I understand this thing or not. It looks to me a little as if you were mixing two different questions. The first is in regard to European and American foul brood, and then there is another different question in regard to *Bacillus alvei.*

Pres. York—*Bacillus alvei* is the same as the New York black brood or European foul brood—all the same thing.

Dr. Miller—It seems to me I understand that it was decided that *Bacillus alvei* was an entirely innocent party, and had nothing to do with either of them.

Pres. York—I think that is wrong.

Dr. Miller—*Bacillus alvei* is the European foul brood?

Mr. France—Yes.

Pres. York—And *Bacillus larvae* is the American foul brood.

Mr. Moore—I want to press this right home. If in the past all of these scientists have been mistaken, who have held up *Bacillus alvei* as being the germ of foul brood, and we believed them, and then somebody comes along and says we are mistaken, is our authority good enough to make us throw away all we had in the past and say *Bacillus alvei* is not in it at all?

Mr. Taylor—I think there is no doubt that they are right as far as they have gone. The trouble with Howard and those other fellows is that they relied on a single test—I suppose on a microscopic test—and I judge that the two *Bacilli* are alike in appearance; but now these men at the head of our interests in the Government have applied a new test. They have applied the test of different kinds of culture to these microbes, and they find that the beef culture will enable the *Bacillus alvei* to propagate and to increase, while if used with the other *Bacilli* they perish, showing conclusively by this new test that they are two different *Bacilli.*

Mr. Kimmey—If I understood what Dr. White and Dr. Phillips were trying to explain to us at the Bee-Inspectors' convention at San Antonio, it was something like this: The European foul brood was examined and they believed that the cause of the disease was the *Bacillus alvei,* and traced it to that. When we got a disease, without making any examination we called that "foul brood." Then another disease sprang up which we called "black brood." Upon making the scientific investigations which these men directed, they failed to find *Bacillus alvei* in our foul brood, but they did find it in black brood, so they came to the conclusion that what we had always called black brood was really the European foul brood. In order not to confuse the names, they then decided to call our foul brood "American foul brood," and the black brood "European foul brood"—the one having the germ *Bacillus alvei,* the European foul brood; and the American foul brood having the *Bacillus larvae.* In order not to rob the European people of their honor of discovering that, they called that the European foul brood which was formerly our black brood, making two distinct diseases.

Pres. York—Our foul brood they call "American foul brood," but the European foul brood happens to be the same as the black brood they have in New York and a number of other States.

Mr. Kimmey—So we will drop the name "black brood" entirely.

Mr. France—I got quite interested in this subject the past summer, and I asked Dr. Phillips upon his return from California to come to my place. I wanted to investigate this subject of black brood or European foul brood, as I understood it was approaching. I was attending a meeting of some of the inspectors at Milwaukee, and decided to take a train and go to Michigan, where we could find the European foul brood. We had no microscope, but from the appearance of the brood itself—the dead larvæ—it looked decidedly different, so that the naked eye could tell, after once seen, the difference. With the black brood, if there are larvæ at an earlier stage they turn dark, almost black, and flatten right down on the bottom of the cells, whereas the American foul brood becomes a brown, ropy, putrid matter, and lies upon the side of the cell, and becomes stringy in its nature. The European never does that. As for the odor, there was a marked difference again. Our common foul brood has what we call a glue-pot smell, the other had not; not much of any odor, but what there was, as near as I can remember, was more like sour pomace from a cider-mill.

Mr. Kimmey—Allow me to ask Mr. France these questions: Is the American foul brood prevalent in Europe? Do they have the two diseases there?

Mr. France—They have them both

Mr. Kimmey—What do they call them there, do you know?

Mr. France—As far as I know they call them foul brood. That is why there has been this trouble. We found, by referring to scientific researches in Europe, that they had made scientific cultures of them, and examined them, and got conflicting results, examining one and then another, and were misled by the name.

Dr. Miller—If you will allow me to answer Mr. Kimmey's question, I think they distinguish them as the mild and severe.

Mr. Thompson—I would like to ask if the treatment of both is the same.

Mr. France—Not exactly, although the thorough treatment as has been described, taking away the infected combs, will cure either one.

Dr. Bohrer—Speaking about the odor of the foul brood as we find it in this country, it has been compared to the smell of dissolved glue. I want to say, from my experience, it is that way, only more so.

Inspecting Apiaries in Cook County.

"Was there a foul brood inspector around this summer to inspect the apiaries of Cook County?"

Mr. Moore—I believe there was not. I acted as foul brood inspector for only one season, and I think Pres. Smith, of the Illinois State Association, is the only one who has acted as inspector of apiaries since then; and Mr. Smith has had the work of eight men on his hands to cover this State, so naturally, he could not cover it all. As far as I know, he has not been in Cook County at all.

Mr. Thompson—He was in Kane County.

Pres. York—He generally goes when he is sent for.

Mr. France—There have been sent to me samples of diseased brood and dead brood from almost every State, and there have been some samples from Cook County sent me and some sharp criticisms because I did not say it was foul brood; but it was not.

Pres. York—What was it—pickled brood?

Mr. France—Some of it was. Some was starved brood, and some had indications foreign to all of us as yet.

Mr. Moore—Was there any black brood, Mr. France?

Mr. France—No, sir; but I was surprised to learn from Dr. Phillips that he had found cases of black brood in Illinois, Ohio, Michigan and California. European black brood is spreading.

Pres. York—And of course in the East, besides?

Mr. France—Yes.

Dr. Bohrer—Has Illinois no foul brood law at all?

Pres York—It has a foul brood law, but not a compulsory law. It is at the option of the bee-keepers whether they will let the inspectors in their apiaries or not.

Distance of Apiary from Highway.

"How far should an apiary be from the highway?"

Mr. Meredith—Just far enough not to interfere with the public.

Mr. Taylor—That reminds me of a story. There was a gentleman in England who desired to hire a coachman, and so he advertised for one. He wished any candidates there might be to appear at a certain time. Several appeared and he began to question them, and wanted to know how near they could drive to the edge of a cliff there was upon his estate. The first one said he could drive within a yard of it; another one said he thought he could drive within a foot of it safely; and the next one thought he could drive within an inch of the edge. The last man, an Irishman, said, "Faith and be jabers, I would keep as far away from it as I could."

Dr. Bohrer—There should be a high fence, 6 or 7 feet. I remember having an apiary of about 100 colonies in Indiana, and I had them just over a fence from a public highway and the bees never annoyed people passing on the road, with a fence some 6½ feet high. They would go over that fence and go over the heads of persons in buggies and on horseback; I never knew any one molested.

Mr. Arnd—Mr. Duff, who is here, has 150 colonies right in the city of Chicago. He can probably tell you.

Mr. Duff—I can keep bees within about 10 feet of the street; but I have a 6-foot fence so the bees rise up and go right over.

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A Member—My bees are within 50 feet of the sidewalk and I have no complaints. I have only 3 colonies, but I notice they rise very quickly. They are up 10 or 15 feet in the air in 20 feet of flight. The sidewalk is running north and south, and my hives face the east, but the bees go to a marsh straight west from me, and simply make a little curve.

Mr. Moore—I know Mr. Horstmann so well, and I know he won't take any offense when I say he has had some experience. The Health Department ordered him to "get off the earth."

Mr. Horstmann—The bees that the city got after were not at my home apiary; they were in another apiary. They had a little trouble with the family there. I had my bees on a man's lot, and it seems this man and his neighbor had a little trouble, and the only way they could get satisfaction was to get after the bees,so I got notice from the Health Department to move the bees out of there; but I had that all fixed up, and left the bees there until I got ready to put them away. I wrote to Mr. Moore, and I believe I wrote to Mr. France at that time, too, for some literature. I thought I might have to bluff the city, but I didn't have to do that. I had a friend look after it, and we left the bees there until I got ready to put them away. The bees are not dangerous. Where I live I have bees on the corner, and people passing on the sidewalk every day, and they are never molested. The women-folks hang up their clothes and the children play all around the hives, and they hardly ever get stung. It is not so much the distance as it is the kind of bees you have. If I find a cross colony of bees I do away with that queen and get a more gentle strain of bees. I admit that among the bees I had at my out-apiary were some pretty cross ones, and, of course, not being on the place, I did not know where the cross bees came from; but at home I can tell, and pick them out. I think everybody should look after the bees, and then there will be no trouble.

Mr. Taylor—I think we can not be too careful with our bees in this respect. It is not altogether safe to rely upon a high fence. Bees do not always sting intentionally, often unintentionally. I know of one instance. I had started to go down town. and I had some bees some distance back from the highway. The bees flew across the highway to a pasture beyond. I suppose they went high enough when they went away, but when they came back heavily laden it was quite different; and as I was driving down a bee came and touched me on the eye, and of course eyes have a habit of winking in such cases, and the bee stung me. Now it is easily imaginable great damage might be done just from stings received in that way. Bees might get into a horse's mane, or about his eyes, and cause a runaway. You can not be too careful. There is no need of playing with bees and putting them as near the road as we can. We better be like the Irishman and get them as far away as possible.

Mr. Thompson—I had about 75 colonies behind a fence right near the street, as Mr. Duff speaks of, and I want to ask him if he ever experienced a nervous feeling when he heard a child cry when he was not right on the ground?

Mr. Duff—I never heard them cry.

Mr. Moore—Mr. Pease has had charge of an apiary opposite a public school in Ravenswood, and I have heard people say that their families are being stung to death by those bees!

Mr. Pease—I have had charge of 100 colonies of bees, and about 85 feet across the street is the school. When I first located the apiary at this place I had some little difficulty, not so much with individuals as with an organization that had the idea that we were to establish a manufacturing plant at that point, and they did not propose to take any chances. A committee was appointed and waited on me, and I was notified to cease erecting a fence and apiary house which was being constructed; that I was going to needless expense, and that it would only have to be torn down. I disregarded that and went on with my work, and after the first week or 10 days the school children seemed to get accustomed to the bees. Nobody was stung that I knew about at that time, but a gentleman who lived some 2 blocks away had been very greatly annoyed with them, and he complained to the Department of Health. An officer came out. I showed him through the apiary, answered all the questions he asked, and possibly volunteered some information for his benefit. He said, "I will have to send in a report, but it will be one that won't hurt you."

Mr. Moore—Did he have a veil on in this inspection?

Mr. Pease—No, sir; he did not. He went through the yard with me, neither of us with a veil. I opened several hives for him. I heard nothing more from that source, and the only serious case of stinging that I heard anything about was from a little girl who was stung through the sole of her shoe! [Laughter.]

Mr. France—I see in looking over the work of the National for the year just closing that there are 18 different places where bees in cities have been attempted to be declared a nuisance and ordered removed, and 2 which were ordered removed. Now there is a cause for all this. One team was stung to death quite a distance away. The road was 225 feet from where 150 colonies were. The man that operated the bees had extracted them, and they were unusually cross. It was out of the honey-flow season and they had become so cross that he was compelled to put protection on his hands as well as his face to finish the work of the day. There was an irrigating ditch by the side of this road; the banks began to give way, and men were sent out to repair the ditch. They had to leave on account of the cross bees. The consequence was the water broke the banks, ran over the land, and the laws of the State make the irrigating company liable for all damages of the water when it is out of its channel. The next morning a team loaded with grain, passing this road, was met by a quantity of cross bees about 300 feet away. By the time they reached where the water run across the highway, making a mudhole, there were a good many bees on hand, and the team was unable to pull the load out of the mud; before they could get them away both horses were stung to death. The man was compelled to get into the mud and besmear himself over, to save his own life. The team cost $225 and the harness $25, and the case came up. Should they carry it into the court or settle it? I am a compromise man—believe in settling every time and keeping out of the courts; the further you carry it the worse it becomes, as a rule, and I advised them, by all means, to settle in some way. I got a letter last night that upon receipt of my letter he had taken it over, at my request, to the party losing the team, and had read him the letter, and rather than go into court, he had agreed upon a compromise settlement of $195. There is also a counsel fee of $2.50, making $197.50 as a settlement. Now he wants the National to pay the whole bill. We have a great many so-called city bee-keepers that are keeping bees. A few colonies will bother no one, but when you come to develop that into a good-sized bee-yard it is a different condition of affairs, and I have had some pretty trying times to get excuses and help some of our members when the bees—although there might be a high board fence—made trouble. The individual lay of the ground at each place cuts a great figure. There may be a high board fence, and if the lay of the land is such on beyond that the bees drop over the fence, and soon get to the ground again, the fence is of little protection. I think it is a case for each individual bee-keeper, if he learns the bees are making an annoyance, to make amends at once to those who have grievances. Let us exchange our position with the one who has the grievance, and would we like to have the bees spoiling the clothes in the spring, and so on, as they do in the cities? Would we like to be compelled to hitch up our teams early in the morning and shy around because a neighbor has bees? I stopped at a hotel not long ago, where the landlady said, "I would gladly give you your board if you would tell my neighbor how to keep the bees out of the pump." I said, "That is easy enough. A piece of cheesecloth will keep the bees from going in, and it will strain the water and make it cleaner."

Mr. Moore— I want to say that carbolic acid smeared around the edges of troughs where bees congregate is very disgusting to them, and has been used to good effect.

Mr. Kimmey—I tried it and it did not work.

Mr. Moore—Probably you did not have it strong enough; 95 percent solution—what they call pure?

Mr. Kimmey—Yes. I got over the difficulty by putting a barrel of salt in their place. We laugh, of course, at stories of stinging through the shoe and all that, and wondered on second thought whether that really occurred or not, whether anybody was so foolish as to make the complaint. But, after all, it seems to me no one should put colonies of bees 85 feet from a school and expect to keep out of trouble. I

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know, as this gentleman says, there are times of season when you can go into your bee-yard, and have children play around the bees, and everything is lovely; but I also know, as far as my experience goes, that I never have seen an apiary of 12 or 15 colonies but what a child at some time of year was stung and went about yelling, "I hurt myself on a bee!" and the mother ran with arnica, and there was trouble. I shouldn't want to set myself down with 100 colonies of bees within 80 feet of a school-house or a highway. It seems to me, as bee-keepers, we ought to be more careful, and put ourselves in the place of the other fellow, and see if we would like to be treated that way. Where I have my bees, although I am at least 100 feet from anybody, surrounded by a green-house on one side and a grove on the other, and at least 150 feet from the street, yet I am in fear every day that I may have some trouble. A year ago last spring, when I put my bees out, a neighbor said, "Mrs. Turner has had trouble with her water. Her clothes are turned and she thinks it is iron rust." I walked over, and I said, "Mrs. Turner, I know what is the matter with your clothes." She said, "I wish you would tell me." I said, "I put my bees out. If you will take those clothes and put them in water and wait until tomorrow to hang them out, and send me the bill, I shall be glad to pay the bill." "O, that is it?" "Yes," I said "that is it." "O, it is nothing at all. It only makes me a little trouble, and perhaps they will be the better for a second rinsing, any way." I only say this because I do not wish you to think that I acquiesce that you can set bees down near a school-house or where people hang their washing out. I think if you have 150 colonies in the city you would better move into the country.

Mr. Moore—I was brought up in Evanston with bees. In the eyes of bee-keepers it is a kind of joke for anybody to get stung. At our house we have two boys, and I take a frame out and say to the boys, "Look here. Run for your life!" They get stung 3 or 4 times a week and they take it as a joke. I was out at my brother's the past summer, and he and I went in and took the honey out and we got stung 10 or 15 times around our ankles. We did not mind it because it did not affect our blood at all. It did not poison us. But I want to tell you I have inspected bees around Chicago a good deal. The public think they are like snakes; they are deadly afraid of them; and although it is a joke with us it is serious to those folks. I want to bear down hard on this: A pound of honey will smooth over a whole lot of bee-stings, and whenever anybody complains, you want to do the right thing, and do it quick. Then you won't get unpopular in the cities. Otherwise you will, and they will put you out of the cities if they get after you really in earnest. You may say you have the Supreme Court of Arkansas, and all that, to show that you can not put bees out of the cities, but I say they will put you out quick if they set their minds on it. Give them a pound of honey; keep them good-natured. Use your judgment. Some places you must be 80 rods away from the highway. Other places you can have them close to the highway. Have their flight the other way. Some bee-keepers are foolish enough to have their flight towards the road.

Dr. Miller—One point Mr. France made, I am afraid possibly might be misunderstood, and might be misused. As I remember, he said with a few colonies it is one thing, but with many colonies it is a different matter. Some one might take from that, that as long as he had one, two or a half-dozen he might put the bees up close. I remember one year my bees seemed to be very cross—stung a great deal. A very close watch discovered to me that it was one particular colony in the apiary, and only that one, and of course Mr. France knows that as well as I do. When I changed the queen of that colony the cross bees disappeared in a little while. Suppose I had only had one colony and it had happened to be that cross one, I would have been as bad off with one colony as with a hundred. So don't count too much on it that you are safe because you have only a small number.

Mr. Pease—I wish to answer one question of Mr. Kimmey's in regard to the apiary I spoke of a few minutes ago being across the street from a school-house. That particular yard is not run for comb honey. It is run for the production of bees, the colonies being, you might say, weak. I do not suppose there are over a half-dozen colonies containing the full number of frames (8) in the whole yard. Another thing, I do not tolerate a cross colony. I simply pull off the head of the queen, and re-queen, and I find that eliminates the trouble. I find also, or I verily believe, that 100 colonies of bees can be taken care of in a manner which will be a far less nuisance to a locality than under some conditions a half-dozen colonies improperly treated. In regard to the school, and in regard to the present locality, the very best friends I have in that neighborhood are the scholars and the teachers, and there are no complaints, and have not been, from the immediate neighbors, who, I might say, are a half a block away.

I have trouble sometimes by bees being made cross by boys. Boys like to shy stones at the bees, and very often that makes them very ugly, and I think you have an ugly colony of bees when stones have been thrown at the hive, just as they would throw at bumble-bees' or hornets' nests—just throw quick and then run.

Mr. Thompson—I would like to ask Dr. Miller how he is able to locate a cross swarm in a yard of 150, for instance.

Dr. Miller—I never had 150 in one yard, but I owned one yard of 125. When I go along and come close in front of a particular hive and 15 or 20 bees come out full blast at me, I think they are cross with me; and when I find that the same thing occurs every time I go by that hive for a week or two, I settle down that that is the one, and that queen suffers.

Mr. Kimmey—I bought 5 nuclei and I put them in the yard. They were the first I had, I think, and the next day I went to examine them. You don't know how proud I was to handle them without smoke or bee-veil. The next day I undertook to show some one how nicely I could take them out without the bee-veil or smoke. I didn't take them out. I went and got the smoke and bee-veil. That has been my experience ever since. Sometimes I can do anything; sometimes THEY can do anything. I have been thinking of your having bees in a small lot where your neighbors are around. Don't your bees ever act like that, especially in the fall of the year? Don't they get ugly as mine do, so that it is not safe to go within 40 or 50 feet without danger of being stung? I am like Mr. Moore. I don't mind a couple of thousand stings. I would not like to be stung to death, of course. But I have a son-in-law who was stung once, and he says he would not keep the blamed things around. I imagine there are lots of other men, and lots of women and children who feel that same way. I do not know but what you can rear bees for breeding purposes; never let them get strong; keep them always weak; and not have them sting. I do not know but what you can, but I should awfully hate to try it, and I don't want to back anybody else up. My voice is for being careful, and, if you have trouble, put yourself in the other fellow's place.

Mr. Taylor—I just want to make one suggestion, and that is this: I think that we ought, just as soon as we possibly can, to learn to know when we can handle bees with inpunity. A bee-keeper after he has had considerable experience will learn, as Mr. Kimmey has done, that he can at one time handle his bees with no appearance of anger on their part, and at another time they are full of vengeance. One can learn with a little thought and care just what to do in his apiary, and to get along without ever angering them. I have not for years had any trouble in my apiary in any way. Of course, it would be a little more difficult, perhaps, if I were producing extracted honey, but with comb honey there is no necessity at all of stirring up your bees. If you only use good common judgment in handling them, and the time when to do it, there is no necessity to do it.

Mr. Kimmey—I was talking of my early experiences. I think I have now learned those things. I think on opening a hive I can tell whether they are going to fight or not. I know I can tell by the smell when they begin. But while I may know, how are the neighbors and the children to know?

Dr. Miller—There is another point. Suppose I know enough to know exactly how the bees are going to act, by they way they behave, by the odor or something like that. Suppose I go off 5 miles to do some work? The only thing is to have the bees off where they won't bother anybody. City bee-keeping is one thing, and country another. If I were in the city with the bees I have now I would not keep them except in the center of the block, and I would have blocks consolidated into one. One

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point should be emphasized for the city bee-keeper: Gentleness of character is of first importance; if they will gather only half as much honey, to have bees that are gentle. If we are away off in the country it doesn't matter so much.

Mr. Wheeler—I would like to make one other point; that is, a good smoker. It is worth more than all your breed of bees. Do not fool around with a cheap smoker which many people get. They buy a smoker that costs very little—a quarter, or something of that kind. It will go out and bother them. They would better spend a little money for a good smoker, and go at the bees and frighten them well, and they won't sting.

Women as Bee-Keepers.

"Would you advise a woman to keep bees? Would she be equal to it?"

Mr. Taylor—It would depend upon the woman.

Pres. York—I think perhaps Miss Wilson can answer that.

Miss Wilson—That would be my answer. It would depend upon the woman.

Mr. Wilcox—It might be proper to say that because she is a woman is no reason why she should not keep bees. If she has the strength and the inclination, she can keep them just as well as a man.

Mr. Whitney—I have had a little experience in giving women some instructions in handling bees. There are quite a number in Lake Geneva and they are quite successful. They have no trouble in handling them at all, and I think they are more gentle in handling bees than men are. Although they may be of a nervous temper they handle the bees very carefully, without any trouble at all. We know from what we read in our journals that there are very successful bee-keepers among women all over the country.

Mr. Abbott—I think there is no reason why she would not do anything because she is a woman, if she knows how, and wants to. She can keep bees or run a farm, or a livery stable, or a barber shop, or anything she wants to. Some women could not keep bees at all. I don't think my wife could keep them long. If she had a colony she might keep it a good while, because she would not go near it. I do not think there is money enough to hire her to examine a colony of bees. She is timid about it, though she will run my business when I am gone, look after 5 or 6 head of stock, and do anything else, though she can't keep bees. A woman like that would better let them alone. But it seems to me it is an industry peculiarly adapted to women who want to pick up a few dollars for spending money to use as they will. There are only a few husbands who seem to think women need any money except what they dole out to them. But on the farm, if some girl in her teens takes up the study of bee-keeping and studies it with great patience, she can soon have an income coming in and be independent of her father and her folks. It is quite easily done, especially on a farm. Of course it can be done in the city if you have room enough. I know a number of girls who get all the spending money they want. I know one lady—a widow, who for years had just 12 colonies. She would let her bees swarm, and then she would double them back and in the spring she always had 12 colonies. She has been getting all her spending money for all these years; bought her own clothes, and had whatever she wanted and was independent; notwithstanding she inherited a good deal from her mother, she didn't have to ask her brothers for anything; made it all out of the bees and a little poultry. I know a number of such ladies, and I don't know any reason why more should not do it.

A Member—I think a lady bee-keeper is just as good as a man. I know a lady whose husband was a cripple, who made $150 a year, and it was quite handy to her. I think she handles them better than I do.

Mr. Taylor—An old gentleman used to come to my place and get pointers on bee-keeping. He complained that his eyesight began to fail him, and it was hard to deal with his bees, look them over, find queens, and so on. One day I came there and he said, "I have been getting married. My eyesight was so poor that I thought that I would get some one to find queens for me; but she can't find them any better than I can."

Pres. York—I think we ought to hear from Mrs. Meredith before Mr. Meredith on this question.

Mr. Meredith—She probably can give you some information. She had 100 colonies the past summer.

Mrs. Meredith—I am not much of a speaker in public. I can tell you that I like handling the bees very much, and I think I could do it quite successfully.

Pres. York—Miss Meredith, I think, looks as if she wanted to be independent., as Mr. Abbott was saying.

Miss Meredith—I haven't any bees, though! [Laughter.]

Dr. Bohrer—My observation is that the ladies are a good deal like men. If they are adapted to the business, and have a taste for it, they become just as expert as men. I used to be a bee-keeper in Indiana and had quite a correspondence with both ladies and gentlemen who kept bees. I found the women eminently successful. They couple them with poultry, perhaps, or some one who took in sewing or washing owned a house and an acre or two of ground kept a few colonies of bees, and the bees coupled with poultry and other labor, made an excellent living, a very nice little income, and there are thousands of ladies that I am satisfied if they were encouraged to take hold of the industry would be successful. Francis Huber's wife was his principal helper in his discoveries. I have some daughters that are married now, not at home; they do not keep bees at all. But I have one that does a whole lot harder work. Her husband is not a strong man. She will order him to stay at the house and do something in the shade, and she will go out and drive a 4-horse plow, and do that and help him raise 4000 or 5000 bushels of wheat in one year. I think with proper surroundings she would take to bee-keeping. As a child she could pick out the queens as quickly as I could; help carry the frames from the extractor and back again; and could have been a manager of an apiary if it had been necessary and a duty that fell to her. I believe it to be the duty of every bee-keeper throughout the country to encourage the ladies in every way to engage in the business. Not to buy up a large number of colonies to begin with, but take one colony, study their habits carefully, read a bee-paper and some of the standard works on bee-keeping. Women are just as apt at taking up information of that kind as men are, and there is no reason why hundreds and thousands of women that have not a fair income could not add materially to the little income that they have in engaging in this industry. I am sometimes asked by ladies, "Can I engage in bee-keeping and make a living out of it?" My reply would be, "It depends upon circumstances. If you study the habits of the bee, their stings are not poisonous to you, you keep enough of them—many farmers I think would furnish the ground and allow you to keep a good many colonies of bees there—I think you could not only make a living out of it but make money besides." A great many people can not engage in the industry of bee-keeping, and cannot make money out of it, but almost every farmer through the country can if he will; but they won't do it. They have no taste for it. They do not like bees, do not like their stings—they are susceptible to the influence of their poison; that class of people I advise to let it alone, both men and women. But there are many who can learn it; the stings do not hurt them, and a good many of them can make money out of if it they will keep bees enough. Almost any farmer whom bee-stings do not poison can keep a few colonies and produce all the honey he needs at home.

Defending Against Troublesome Neighbors.

"Should *this* Association defend its members against troublesome neighbors?"

Mr. Wilcox—I should say absolutely *no,* under any circumstances.

Pres. York—I might say that there are no funds to do it with, any way; and every bee-keeper ought to become a member of the National. That is part of its business.

Mr. Horstmann—I asked that question. This question has been pretty well discussed this afternoon, not exactly talking on that question, but we have been talking on those lines. I say this Association should defend the members. If the Association does not want to defend its members against troublesome neighbors, I say what good is the Association? What is the use in belonging to it, if the Association is not going to be of some benefit to you? I think that in a case similar to the one that I spoke of here this afternoon, it should be investigated by the executive committee of this Association, and if they find, after investigation, that the bee-keeper is at fault he should have no defense; and if they find that the neighbors have been quarreling, and they are only making trouble for the

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bee-keeper for a little satisfaction, then I say the Association should defend that member.

Mr. Wilcox—I want to say that we have another association—the National—and that is a part of its work, a leading portion of its business—and he should apply to that, and this Association, as an association, should not meddle with that work at all. If we attempted it we should have to levy a tax upon every member sufficient to provide an income for that purpose. It would be quite a tax.

Mr. Horstmann—Most of the members of this Association are citizens of Chicago, and I say that we should stick together. If we could put it on the National Association, all right; but what is the use of our having an Association unless we can be of some use to each other? I say there is no use of it. It is all well enough to come down here and have these talks on different questions. We, of course, are benefited by them. Some are benefited more than others. But we should defend our members in cases of the kind I have spoken of here, I think.

Pres. York—I would like to ask Mr. Horstmann what he means by defending them, if we have no money in the treasury to do it with?

Mr. Horstmann—I did not ask the Association to defend me. I fixed the thing all up; or I didn't myself, but had a good friend that did it. The city would have "fired" my bees off there if it had not been for a good friend.

Dr. Bohrer—If I may give a little experience I had about 35 years ago, I settled it very quickly. A man near me had grape-vines. The juice was running out of the grapes and my bees were around there. He said I must remove my bees; they were destroying his grapes, puncturing them and taking the juice. I said, "I think you are mistaken. Bees can not possibly do that. Their jaws are not so constructed that they can cut the skin of a grape." He said, "They are doing it." I said, "Have you seen an individual bee do anything of that kind?" "Why," he said, "there are hundreds of them doing it all through my vineyard. You have got to take them away." I said, "If you can demonstrate that they are actually injuring your grapes, it will be right for me to take them away, but unless you can establish that fact I will not take my bees away. I have got the affidavit of Mr. Quinby." I sent all the way to New York for it. "I will get Mr. Langstroth and have him testify in court that not a man of you knows what you are talking about; that it is utterly impossible for a bee to puncture the skin of a grape." Then he consulted an attorney, who called on me in my office, and I showed him the bee through a microscope that magnified about 100 diameters. I said, "Look at it, and if you think it will puncture a grape I will remove my bees." He was a reasonable man. You will find some reasonable men who are attorneys! He said, "Bohrer's statement is true. Your grapes are bursting or being punctured from some other cause. The bees are carrying off the juice." And the matter dropped.

Mr. Wheeler—The drift of the convention sounds to me as if we were not members of the National any longer. Is that the fact?

Pres. York—We are members of the National because we joined in a body, and if we get into trouble we can call on the National to help us out.

Mr. Moore—Mr. France, in this connection, will you say how much the National Association has spent?

Mr. France—In the ordinance line from $200 to $300, one year $400. As a rule, with these ordinance difficulties the bees are not at the bottom of the trouble, but that the neighbors to the bees get in trouble, and complaints and grievances arise, and finally the bees are complained about and an ordinance passed declaring them a nuisance and ordering their removal. That is about the way those things are led up to. There are many cities in the United States enforcing such an ordinance, and you can not keep bees in those cities, but we haven't it here. As I say, most of these things come from some personal grievance. I recall where two neighbors got to quarreling in that way. The bee-keeper killed the neighbor's chickens, and then he turned around and killed the bee-keeper's cat, and it was back and forth, and a swarm of bees came out and clustered on the neighbor's land on a shade tree, and before they had time to get them out this neighbor took a torch and burned them on the tree. After a while they asked the city to declare those bees a nuisance.

Mr. Wilcox—There is one thing we all ought to understand—perhaps we do—the National Association was not originally intended to defend everybody that was threatened. It was intended only to protect those where it should involve something of general interest to all bee-keepers or to the bee-keeping industry, as in the case of Mr. Freeborn, the first case that ever arose, where the question was as to whether the clover was damaged by having the nectar extracted by the bees. That is a question that affects the industry generally. I have had complaints made that buckwheat was injured in its yielding by the bees depriving it of its nectar. If a lawsuit were brought to collect damages for nectar taken from buckwheat you can see at once that almost every bee-keep in the United States would be willing to contribute, because they are all interested; but where it is a personal quarrel they ought not. If the National Association goes farther than its rules require, as it may sometimes, it will be in a case of that character, where the general welfare of the bee-keepers demands it, not where it is was a personal quarrel.

On motion, an adjournment was taken until 7 p. m.

First Day—Evening Session.

For about a half hour before the opening of the session a quartette composed of Mr. and Mrs. Roscoe M. Stryker, Miss Ruby W. Stryker and Pres. York, accompanied on the piano by Miss Kathryn Kletzing, entertained the audience with bee-songs. Dr. Miller sang also.

Cross Bees.

"How far from their hives are cross bees likely to volunteer an attack?"

Mr. Wilcox—If you change that word "likely" to 'liable," I will say 20 rods.

Dr. Miller—I think it is a variable point. It depends a great deal upon the bees. If I understand the question it is, How far from the hives will the bees volunteer an attack? You may go to a hive and the bees will run after you a great deal farther away from the hive than that point where they would volunteer an attack, supposing they are coming towards the hives; but I understand the question is how far you are safe from a volunteer attack. If you had asked me 20 years ago I would have said that 2 rods away you would be quite safe. If you had asked me last year I would have told you 20 or 25 rods, and I don't know how much farther the thing is going. Really, that is my question, and I am asking for information. I want to know how much that thing will increase.

Mr. Taylor—An old bee-keeper was telling me what an experience he had in the neighborhood of Lapeer, Mich. He had been hunting bees, and he finally found a colony in a hollow elm standing among other trees, and he cut down the tree, intending, of course, to have it fall free from the other trees and gently; but, as luck would have it, it fell with a crash and struck against another tree and splintered it all to pieces, scattering it all over. He said the road was about half a mile off, but you could not go past on that highway without the bees getting after you.

Mr. Duby—I think it depends a great deal upon how you attend to them. The more rough you are with those cross bees, the more cross they are. I believe it is the method of attending to them; the more gentle we are with cross bees, the more gentle they will be.

Dr. Bohrer—My experience is that something depends upon the kind of bees you have.

Mr. Wilcox—Cross bees, the question calls for.

Dr. Bohrer—Some bees are crosser than others, so it depends upon the kind of bees, at last, that you have. If you have the pure Cyprian bee I think it will come for you in defense as far as it can see you in making the attack. I had a colony of them, but I got rid of it as soon as possible. If you have that kind of bees you may look out. They are on the war-path. When I opened a hive of those Cyprians I had trouble. I could not do with smoke or anything else; nothing short of killing them outright would answer the purpose. Then I took their queen away and gave them another queen, and as they died out, naturally I got rid of them. But the ordinary Italian bee or the black bee, or the hybrid, I have never known to attack horses. I have my farm horses passing up and down the lane within possibly 20 feet of where the bees are. Bees are flying on both sides, but they can not see the horses from the hives, and they do not attack them.

Keeping Ducks in a Bee-Yard.

"Is it safe to keep ducks in the bee-yard?"

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The Members—Yes.

Mr. Todd—Safe for which, the ducks or the bees?

Mr. Abbott—I do not think it is. My neighbors have some ducks and I have some. My ducks are well behaved, and they do not interfere, but I noticed a big drake from the neighbor's the other morning went in front of a strong colony of Italians and the bees were disappearing very fast. I don't know how long he would have kept it up, but he kept it up until I drove him away. At that rate it wouldn't have taken long to have the bees all eaten up.

Mr. Arnd—I once had neighbors who said that my bees killed the ducks. They happened to find a bee in the neck of a dead duck and they said it killed the duck.

Mr. Kimmey—If I were going to answer that question I should inquire whom the bees belonged to, and whom the ducks belonged to. If the bees belonged to the man who asked the question I would say no; the ducks will kill the bees.

How far Bees go for Honey.

"If honey is scarce, how far will bees travel to gather it?"

Dr. Miller—Before we get into a long discussion, I would suggest, if we stick right to the question and those who know, who have some definite testimony as to the distance they have known bees to go will tell us, we will get information.

Mr. Arnd—I have known bees to go 6 miles.

Dr. Miller—How did you know?

Mr. Arnd—Because they gathered buckwheat honey, and there wasn't any buckwheat within 6 miles.

Mr. Whitney—I can not give any evidence from personal observation, but I remember reading in one of the bee-papers of bees going 9 miles. [Laughter.] Hold on! Don't laugh! Let me tell my story. You will believe it. During the time of the big fire in Chicago there was also a fire in northern New York, in a black-ash swamp, and it swept off the whole swamp. It was 5 miles long. The next year it grew up to fireweed. A gentleman living south of that swamp 4 miles owning the only Italian bees in all that region, found his bees very busily at work. He hitched up his team and drove north along the road. He could see his bees going and coming, and he drove to the south end of that swamp, and he said he never saw such a sight in his life as he saw there. His bees were busily at work on that fireweed. He drove to the extreme north end and he said they were just as thick there as they were at the south end. He knew they were his bees, because he saw them going and coming and they were the Italian bees, and the only Italian bees in that region he owned at that time. It seems almost incredible but I saw the man's picture in the journal that published the statement and he looked like an honest man.

Pres. York—Was it Ira Barber?

Mr. Whitney—That is the name.

A Member—If Ira Barber told it, it is so.

Mr. Wilcox—I have some knowledge of it, because I used to be a bee-hunter, and as a bee-hunter we always know how far it is from where we start to where we find the bees. We followed them up and we found bees 5 miles from home, but exceedingly rarely; more commonly 4 miles. Yet I never knew bees to work profitably—to carry honey profitably to store a surplus — at a distance greater than 2½ miles.

Pres. York—Bearing on that last point, perhaps Mr. Arnd will tell as to the result of the working 6 miles away. How much did they do?

Mr. Arnd—They did not do very much. In fact, it took me about 6 months to find where they did get the honey; and I found afterwards that the buckwheat was 6 miles away.

Pres. York—The honey was all gone by that time!

Mr. Arnd—The honey was all gone.

Mr. Wheeler—I had a pretty good experience along that line. Some 20 years ago I lived in Iowa. I went into a country where there were no bees at all. The nearest colony was 15 or 20 miles. I watched those very closely, and I watched the fielders to see how far the bees went, and it was very, very seldom that I found a bee farther than a mile away from its home; and out there there was no chance of being mistaken about the distance, because the country was all measured off in section miles, mile by mile, and hardly any of those bees traveled more than a mile.

Mr. Wilcox—What season of the year?

Mr. Wheeler—At all times, all through the working season. They did not appear to go much beyond the mile limit. They were thick within that mile.

Mr. Todd—Nectar must have been plentiful.

Mr. Wheeler—No, that was the peculiar thing about it; they hardly made a living. It was a very poor country at that time. Since then white clover has come in, and it is a fine country for bees now; but at that time they had to skirmish to get a living, and they very seldom got away more than a mile.

Mr. Clarke—I think the last speaker and I come from the same locality.

Pres. York—The same State, any way.

Mr. Clarke—I don't know whether the bees we have at the present time are better fliers or honey-gatherers, but my apiary is at Plymouth Creek, half way between Le Mars and Merrill, and my apiary is situated upon the northeast corner of the section. One mile to the farthest end of it I have a pasture of 40 acres, and it was about as white as a white tablecloth this year with white clover. We had a considerable crop of honey there this year, and my bees all through the season never worked on my farm. They went almost to Merrill to gather the honey; and what could be the reason of that? Mr. Arnd says he could not see the surplus. I have forgotten just exactly what the average is, but one colony stored 630 pounds, and a number of them over 300; some of them up to 400 pounds of honey. Whether I have the long fliers, or whether the country is changed, I can not say, but that is my experience.

Mr. France—As to how far bees work from the home yard, I may say my bees had an abundance of basswood years ago right at their door, but it has been cut away, so that the nearest basswood now to the home yard is 3 miles, and I notice that when that basswood is in bloom, although it is near one of my apiaries, the home yard works on it. One time I was out on a lake 6 miles across. There was an island, and while out there upon that island bees lit upon my shoulder and excited my curiosity. There was no bee-tree on the island, and I went across to the other side and found bees there working, and they went clear across that 6-mile lake to some hives on the other side. They had one chance to alight if they chose to, in their flight, upon this island; but they certainly were working across the lake 6 miles from home.

Mr. Wheeler—Within the last 2 or 3 years I have known apiaries within 2 or 2½ miles of each other, and as far as I know the bees are exactly alike; where one would gather a good crop, the other gathered scarcely any. That proves to me they do not fly far.

Dr. Miller—That does not prove the point Mr. Wheeler makes. How far did you say?

Mr. Wheeler—2 miles.

Dr. Miller—Here may be something off here, and this yard is gathering upon it—this one nearest to it; it is within its range, but about as far as it will go. This other yard, having 2 miles farther to go, will get nothing. (I don't know whether the stenographer can get all my motions.) The point is this; No matter how much the difference is, there is a difference in the distance, and yet it is very difficult to decide on any sort of reason why there is this difference between two apiaries. For instance, I have two. Take one year with another and the northern apiary will do a good deal better than the southern one. I can not tell any reason why. Sometimes the southern one will do the better. I do not know any reason for that either; and when you come right down to it, to find out the reasons why bees do things, there are a whole lot of things we don't know.

Mr. Duby—Maybe we could tell better if somebody could give us the average speed of bees. I wonder if anybody knows that.

Dr. Miller—For want of any rate of speed, I give 60 miles per hour.

Mr. Moore—This may be instructive, although it is not accurate at all. I feel sure I read somewhere that an engineer in his cab saw a bee quite close up to his engine when they were going at a rate of 60 miles an hour, and the bee kept up with the train. If that is true, it throws some light on the flight of the bee.

Toads and Snakes Eating Bees.

"Do toads, as a rule, destroy bees, when permitted to stay about the apiary?"

Mr. France—There are occasions when I think a toad will destroy a good many bees if allowed to stay about; but while it is destroying those bees, if there are any moth-millers around, he goes for those, also. I think he "pays his keep" if you let him alone.

Mr. Wheeler—May I amend the question so far as to include snakes? Do

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snakes eat bees?

Dr. Bohrer—I do not know whether snakes do or not. I do not like them about the apiary, though. I do not like their looks.

Pres. York—I doubt if many bee-keepers drink enough to see "snakes" around the hives!

Dr. Bohrer—I saw one, a blow-snake, 6 feet long. But speaking about toads, I have heard them accused of destroying bees to quite an extent. I saw one, I think nearly as large as my fist, sitting on the alighting-board of a hive, and I concluded I would watch and see what he was up to. He was looking indifferently at nothing, as far as I could tell, but after a while a bee came in reach and it disappeared a whole lot quicker than it could have gone into the hive if it had done its best. I watched him for a while, and he destroyed a number of bees, and I destroyed the toad. He was the finest one I ever saw, the finest one I ever raised in Kansas, and it is a good place for toads. They do well. They may catch some millers, but I think my bees are strong enough so that they will attend to the millers; and I believe we ought to expel the toads from the apiary, as a rule, from what I saw there. Mr. Quinby, in his book, claims they are very destructive. They may be kept out by putting a board around.

Mr. Kimmey—I have seen a toad catch a few bees, but it did not seem to be very serious. I have seen the toad near the entrance and the bee was gone. There is no question the toad got it.

Mr. Wheeler—When I asked if snakes eat bees I was going to suggest that they eat the toads.

Pres. York—The snake may eat the toad full of bees, I suppose!

Danger of Overheating Buckwheat Honey.

"Why will not buckwheat honey bear heating so hot as clover honey?"

Mr. Arnd—Won't it?

Pres. York—Without destroying the flavor, I suppose it means.

Mr. France—I do not know the nature of the answer required, but when I was in New York there was some buckwheat honey brought in for me to suggest whether it was suitable to feed bees. I said, "No; not that wild honey." "But that is New York State buckwheat," they said: I replied, "I can't help it; I would not want to feed my bees on it, because that honey is full of pollen. You can feel it on your fingers—the grain in the honey of the pollen." One of our most extensive bee-keepers lost 90 percent of his bees that winter. I think for the same reason of the pollen in it, if you heat it too much in liquifying, you will darken it, and also increase the flavor of it.

Dr. Miller—The question implies that the heating of buckwheat honey injures it more than heating clover honey. Has any one testimony that that is a fact?

Mr. Wilcox—I have very positively proved that it is a fact. I have been melting buckwheat honey for 20 years, and I have been melting clover about as long, and I know certainly I can not heat buckwheat hotter than 140 degrees without impairing its flavor, or changing its flavor so that I can discover that it is what we call "boiled honey;" and I heat clover honey or basswood honey easily to 160. I have tried it with a thermometer, again and again. I will say further that it is almost impossible, with ordinary care, to reliquify buckwheat honey without impairing its flavor. I can not fully restore its former flavor. I am anxious to know if there is any other explanation than that given by Mr. France.

Mr. Moore—How do you tell how hot you have your honey?

Mr. Wilcox—Put a thermometer in it.

Mr. Moore—Do you use a thermometer at all times in heating honey over the fire?

Mr. Wilcox—Not at all times, but frequently; use it both in the water around the honey, and in the honey.

Mr. Moore—Can you overheat the honey while there is a candied portion in it?

Mr. Wilcox—I shovel the honey into the clothes-boiler, and when it is about melted I have a thermometer and drop it into it, and also in the water.

Mr. Moore—The question is, Can you overheat the honey while there is a candied portion in it?

Mr. Wilcox—Yes. If there is no more than one pound melted, and that is heated too hot, that will flavor the whole body. The rest may be candied, meanwhile.

Ground-Moles in the Apiary.

"How can ground moles be destroyed in the apiary?"

A Member—Catch them and choke them!

Another Member—The same way as they can anywhere else.

Mr. France—Use bisulphide of carbon.

Dr. Miller—Plenty of cats.

A Member—A good dog.

Mr. Taylor—A cat won't catch one.

Pres. York—Mr. Taylor says a cat won't catch one "in his locality."

Dr. Miller—They will in mine.

Mr. Taylor—They won't in any locality.

Dr. Miller—I would like to ask what his evidence is that a cat won't catch them in his locality.

Mr. Taylor—A cat won't dig for them.

Dr. Miller—I don't know how they got there, but I see them in the cat's mouth in my locality.

Mr. Taylor—You mean the meadow-mole, don't you?

Dr. Miller—They are short, and they look as if they were blind.

Mr. Taylor—They both look as if they were blind.

Mr. Kimmey—At one time on my lawn I would get up in the morning and would find where something had gone under the ground quite a disance; and sometimes I would see it working, and dig down with a spade and get it. I thought that was a mole. That is what you are speaking about, isn't it?

Mr. Taylor—Yes.

Mr. Kimmey—That is the kind I have seen with the cat. I don't know whether she dug down, or how she got it, but I have seen it repeatedly. She got them until she exterminated them all.

Mr. Wheeler—I have done it by digging down in the hole and putting a piece of parsnip or carrot with a little piece of strychnine in it.

Mr. Kimmey—Do your moles travel the same path?

Mr. Wheeler—Thy went back and forth.

Mr. Kimmey—Mine did not.

Mr. Duby—Another good way of destroying moles is a common castor-oil bean. You see the track of the mole. It is never deep. Just make a hole with a stick and drop a castor oil bean in it.

Dr. Miller—Do the moles hurt the bees?

Mr. Taylor—No, but they dig up the ground and kill the sod.

Dr. Miller—Then what do we care about moles?

Mr. Wheeler—Does the castor-oil bean kill the mole or scare him away?

Mr. Duby—Kills him. The next morning he will be on top of the ground.

Mr. Wilcox—I want to get rid of the moles. They are eating my wife's flowers. They do not hurt the bees, but they are destroying the flowers.

Pres. York—Here is a question for Dr. Miller to answer. Are you ready?

Dr. Miller—Ready.

How to Succeed with Bees.

Pres. York—"How can I succeed in bee-culture?"

Dr. Miller—I had the same question asked me a number of years ago. A lady in the State of Wisconsin wrote to me, "Will you please give me your system of bee-culture?" When I have it written out for her I will pass it on to you.

Pres. York—Dr. Miller wants more time, but he has had over 40 years now.

Distance Between Queen-Breeding Apiaries.

"How far apart should queen-breeding apiaries be situated in order to prevent amalgamation?"

Mr. Horstmann—6 miles.

Mr. Wheeler—According to Mr. France, it should be 12 miles—6 miles each way.

Dr. Miller—If I am not mistaken, Father Langstroth said a distance of half a mile; and others will make it 6 miles. If there is any definite information on that point it will be important to get it. If not, we would better not spend much time on it.

Mr. Hudson—When I started rearing Italian bees for sale there were black bees around me—no Italians—and I commenced to Italianize all the bees, until I got all Italians within the 3-mile limit, and that eliminated the trouble.

Mr. Abbott—When I first started in St. Joseph I had, about ¾ of a mile out, 150 colonies. My brother lived in the city and we had in his yard in the city 10 or 15 colonies of pure Italians. Those out in the large apiary of 150 colonies were not all pure Italians, but we kept drone-traps on them and caught all the drones except the Italian drones. We had one of those Cyprian queens, and we wanted to get all the queens mated, if possible, and the colony pro-

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duced about 100 queen-cells. We saved the virgin queens and put them on the hives according to my method, having 5 or 6 on the hive—some of them in the city and some of them out at my place, where the other bees were. More than half of those out where the 150 colonies were, were impurely mated. There were no drones flying in our yard, however, except the Italian ones. Those in my brother's hives were every one of them mated with Italian drones. There was not a single queen mated there except the pure ones. They were yellow. I concluded the condition of being hemmed in in the city had something to do with that. The apiaries were not to exceed ¾ of a mile apart. We tried that repeatedly, and we had the same experience every time. We could get them purely mated in the city without any trouble, but if we undertook to mate them out where the other colonies were, at least half of them would be impurely mated.

Dr. Bohrer—I wrote that question, because I believe it is one of considerable interest. I stated, I think, once before here today, that I bred queens as early as 1864, and I made it a point in the years 1864 to 1866 to get control of all the black bees within 6 or 8 miles of me, and of course out beyond that there were hybrid bees, because they were mixing constantly. I dropped out in 1873, moving to Kansas, where the country at that time was not adapted to bee-keeping at all, and since I have come back into line again I find there has not been very much improvement, if any, in the Italian bee brought to this country. The bees that I got in an early day, I got some from Mr. Arthur Gray, of Butler County, Ohio, and some from Mr. Langstroth. I got one queen from Mr. Langstroth that duplicated herself oftener than any I ever reared, and yet after rearing about 100 queens one hatched out that was the blackest insect I ever saw in my life, of any kind, showing that there was some foreign blood. There came the question, then, whether there was a distinct race of bees that were Italian; whether they were pure and distinct, not amalgamated with any other race of bees, and while this question was up, and I was studying about it, and I don't know but writing about it, I met Mr. Langstroth in Cincinnati and we had a talk on the subject. I told Mr. Langstroth about this queen I purchased, and having so many duplicates—about 100—and then having an insect as black as any I ever saw, and that I had some doubts as to there being a distinct Italian bee, whether they are a distinct race. He said, "I know they are not, but what their make-up consists of I can not tell." I have done a good deal of investigating for many years, and I do not believe by importing the various types of bees, Cyprians and Caucasians and different breeds, that we are going to improve our bees very rapidly. I said down in San Antonio, to Dr. Phillips that I was opposed to the Government sending out Caucasian queens to breeders unless they would pledge them to breed 12 to 15 miles from other apiaries, so that amalgamation would be impossible. Keep them separate and see if they are really worthy to be introduced in the United States, or not. The Italian bees as we had them in their highest degree of purity along in the '60's were undoubtedly an improvement on the common black bee. I never had a colony of Italian bees destroyed by the moth-miller. They were better-natured. Then I handled my bees many and many a time without any protection whatever, either on my hands or over my face. I can't do it in Kansas with the bees I have now; only occasionally when there is quite a flow of honey the bees are better-natured. We are all better-natured when we have a full stomach, and the bees are pretty good-natured at a time like that. You can open up a colony of hybrids—not Cyprians, they do not ask any odds for a flight at any time, but they are good-natured at a time like that, but at any other time I won't venture. Sometimes they appear to be as innocent and harmless as flies, and at other times they will come out at me, thousands of them. The reason I put in that question was to argue that very point, and to show what amalgamation is doing for us, and that from 10 to 15 miles is as close as I would advise their being bred, the different races of bees.

Taking Bees out in Spring.

"How soon in the spring should bees be taken from the repository?"

Dr. Miller—Take them out when the soft maple is in bloom, unless the weather is such that you feel pretty sure you will have cold weather after that; but not earlier than that.

Mr. Moore—When the oak leaf is as large as a squirrel's ear.

Mr. Horstmann—What time does the soft maple bloom?

Dr. Miller—If you haven't any soft maple you must take some other rule, but the soft maple is a very common tree, and I have no doubt Mr. Horstmann can find it without going very far from his home, unless they are scarcer than I think.

Mr. Horstmann—Can you give us about the time of the month?

Mr. Taylor—First to the 10th of April.

Mr. Moore—I think the box-elder takes the place of the soft maple in this part of the country.

Dr. Miller—That is much later.

Mr. Moore—I mean as to prevalence of the wood.

Dr. Bohrer—Any pleasant day when it is warm enough for the bees to fly.

Mr. Wilcox—When the soft maple blooms.

Mr. Wheeler—When the thermometer is from 55 to 60 degrees, without any wind, is my view.

Dr. Miller—That might occur in February.

Mr. Wheeler—Month of April, then.

Mr. Taylor—About my latitude, (Lapeer Co., Mich.,) take them out the last days of March, when it is too cold for them to fly.

Mr. Hutchinson—Suppose the bees are uneasy and would force themselves out, would you take them out then when it was cold?

Mr. Taylor—I do not think they would be uneasy, so uneasy as to force them out, if you took them out when cold.

Mr. Hutchinson—I agree with you, if the bees are healthy.

Size of Hives.

"Which is better, an 8 or a 10 frame hive?"

Mr. Wilcox—I would say an 8-frame for comb honey, and a 10 for extracting.

Mr. Hutchinson—I second that.

Mr. Clarke—I prefer the 8-frame to the 10-frame, for the simple reason, if you know how to manipulate the 8-frame properly you can produce one-half more honey than you can with the same process and use the 10-frame hive. I do not claim to know as much as many of the older bee-keepers that are here, but I use both kinds together, and I have tried them on an equal footing, with the colonies of equal strength, and the queens in the colonies bred from the same queen-mother and equally prolific, sitting in the same yard, and I have set them on scales alongside one another. That is my result in 15 years.

Dr. Bohrer—Did you succeed in wintering them as well in the 8-frames?

Mr. Clarke—Yes, sir. I have never lost a colony in 15 years, wintered in the cellar.

Mr. Abbott—I suppose I ought to say that when I wrote those heretical articles some years ago, I said I would not have anything but an 8-frame hive for comb honey. I am just of the same opinion now. If I were starting in business again, I would not have anything but a 10-frame hive. I am sure I am right now. I was just as sure I was right the other time. That is the result of getting older, and getting your hair a little grayer.

Mr. Horstmann—I would like to have Mr. Abbott tell us why he knows he is right. We want some reason for it.

Mr. Abbott—There is not room enough in an 8-frame hive for an ordinary man to keep bees successfully. You won't give the bees the room they need as rapidly as they need it. In a 10-frame hive they have the room to start on, and you give them more surplus room when you put on one super, and when you put on two of course you give them still more in proportion; and you are more likely to give them room when they ought to have it. The reason why so many people fail in bee-keeping is because they do not give the bees room at the right time, and plenty of it. There is more honey wasted in the State of Missouri from ignorance as to when bees need the room than there is gathered in all the hives of Missouri every year. I am confident of that; and I am confident that if we could take out the 8-frame hives that are now in the State of Missouri, and replace them with 10-frame hives, we would not only increase the hive four sections more, but we would increase the crop nearly double. I feel confident of it. I have watched the matter very closely, and I do not think, for the farmers especially, that anything smaller than the capacity of a 10-frame hive ought ever to be used. I did not believe that when I was writing those articles, but if I were starting tomorrow, and for those reasons, I would start with a 10-frame

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hive, and give every colony from 3 to 4 supers every season. Taken one season with another, in the state of Missouri—Missouri is not a good State for honey, because the clover crop is not sure—I can get more honey out of the 10-frame hive.

Pres. York—You mean the 10-frame Langstroth?

Mr. Abbott—Yes.

Mr. Horstmann—There is no reason why the bees should not have all the room they want in an 8-frame hive. I did not write this question, but I am glad it has come up. I use a good many 8-frame hives. I can bring them out of the repository in the spring and just as soon as the colonies get strong enough I can raise the frame up and give them 16 frames to work in, and I am sure that is all they need; and when the time of flow begins I can take the hive-body off and put on supers just as they need them. When one is pretty nearly full I raise that up and put another one under it; and when the top one is full I put another one on the top, and I keep the colonies working with 3 supers. I do not see where you can get anything that will beat the 8-frame hive for comb honey. I am so well pleased with the 8-frame that I am going to use it altogether for both comb and extracted honey. I can use 8-frame bodies, put up 3 or 4 of them, build them up as high as I see fit, and give the queen all the room she wants to lay. The hive-bodies will be just as easily handled as the 10-frame.

Dr. Miller—I would like to enquire whether any of Mr. Horstmann's neighbors like a large hive.

Mr. Abbott—Mr. Horstmann does not believe in a 10-frame hive, but in a 16-frame hive. He goes me a good deal better.

Mr. Horstmann—Speaking of my neighbors, I honestly believe that there is not a bee-keeper in this hall this evening that has better neighbors than I have. I have never had the least bit of trouble with my neighbors. Speaking of the bees, I have the school teachers bring classes over almost every year to see the bees—classes of children. I have a colony of my bees over in the University now. There is no danger of any stings. I have them "educated."

Mr. Moore—I am for the 10-frame hive, first, last and all the time, for extracted honey or comb honey. The manipulation Mr. Horstmann is talking about is absolutely out of the question for most bee-keepers, I take it; it is too much bother; and, just as Mr. Abbott says, he is getting 16-frame hives instead of 8. That is not the point at all. Most bee-keepers, when they give the bees 8 frames, think they will beat the bees out of just 2 frames. When you talk of bees you are not talking of one year; you are talking of 5 years. The great question is wintering the bees. The question is, Does the queen have plenty of room? A good, young queen will fill 2 of those hives in favorable circumstances. When you move them, as Mr. Horstmann says, you upset their arrangements. They know where they want the brood, and where they want the honey. You give them the 10-frame hive and the queen fills a large portion of it with eggs, and they put their honey in there, and they fill that as full as they dare to before you put on the sections. It is a mighty poor year when they don't have enough honey. They come out in the spring with plenty of honey, and they won't be economical as they will with the 8-frame hive, and they will be a going concern. It is not one year alone, but it is a series of years, for 5 years, that finally gets the money; and I believe for the every-day bee-keeper who can not do so much manipulation, that the 10-frame hive is the thing.

The Members—Hear!

A Member—Did I understand Mr. Moore to say that a good queen will fill 2 of those bodies?

Mr. Moore—Under favorable circumstances she will fill 3. It is only a question of unlimited honey; that is all.

Dr. Bohrer—I get more honey from 10-frame colonies than I do from the 8, and I have tried both. One thing that induced me to adopt 10 in preference to 8 was that one of the first Langstroth hives was 18 frames. A good queen would populate all of them, and we got our honey from sections. We did not use extractors at that time. Now I get more honey keeping the combs cleaned up, and keeping the bees constantly at work, from my 10-frame hive. You can get more than from the 8-frame.

Dr. Miller—There is a point that has not been touched upon, that is, convenience in handling. With some people that makes a great deal of difference. A strong man does not care whether has has 8 or 10 frames, though even to a strong man it is a matter of convenience to have the 8 frames. As to the care of them, I am sure there is a good point there. Mr. Abbott is right in saying that the farmer is better off with the 10-frame. That is not saying anything detrimental to farmers, but when we speak of farmers as bee-keepers we speak of them as those who do not make a speciality of it, and do not expect to spend a great deal of the time at it. I am sure that the average farmer is very much safer with the 10-frame hive than he is with the 8-frame; and yet, with sufficient care and attention, I am a little afraid that more comb honey can be obtained through the 8-frame hive than through the 10. For years I used the 10, and, I hardly know why, I think there was a fashion for the 8-frame, and I changed over to 8-frame hives. I have the 8-frame hives yet, but I do not know that I have got any better crops since, but I am a little afraid I have. I am afraid that it would not be so safe for me to use 10-frame hives, and yet there is a litle more work required with the 8-frame hives. I do not think Mr. Moore's objection would hold, that using two stories involves so much work that it is not easily done. Really, the amount of work required using two stories during the breeding season in the spring is not a great deal, and if you will take the pains to have surplus combs you can get along through the spring and through the winter just as well with the 8 as you can with the 10; but the man who does not give his bees particular attention will be pretty sure to lose a whole lot more bees in the winter in the smaller hives than he will in the larger hives. But there may be a difference also as to locality. We laugh about the matter of locality, and yet that comes in nearly every place you touch a bee-hive, and touch bee-work, and it may make a difference in that. But I rather suspect—I am not sure about it—I rather suspect that if you give the work to it, that you get more honey with the 8 frames, and enough more to more than pay you for the extra amount of work you give.

Mr. Taylor—There is another point I think ought to be considered in this, especially by those who are treating a good many bees. Of course it is a question of interest as to how many bees we ought to keep in one place. Now suppose my location would profitably sustain 100 colonies in 10-frame hives. According to the idea of Dr. Miller, if I kept 100 colonies in 8-frame hives in that location I would get as much, or more—probably more—honey from the 8-frame 100 colonies than from the 10-frame ones. It is claimed—and with some truth, no doubt—that the colonies in the 10-frame hives, will average considerably more brood than those in the 8-frame hives. Supposing that they have one-fifth more brood, that is, brood in proportion to the number of frames in the hive. Well, if that is so, then if the location will sustain 100 colonies in 10-frame hives, it will sustain 120 colonies in 8-frame hives. That is self-evident. Now there is a greater advantage. Dr. Miller, if his ideas are sound, would get at least one-fifth more honey; instead of 8000 pounds he would get 10,000 pounds, and probably considerably more. That is a point that we ought to have in mind. There is not so much advantage in having a great quantity of bees in large hives if we can get the honey from a few more hives that are smaller and more easily handled, even if we have to have more queens. Queen-bees do not cost much to a bee-keeper.

Mr. Moore—Dr. Miller would grant you that if you winter your bees in the cellar the question of how much honey there is in the brood-chamber is not so material. I take it that a very large number of people who keep bees in an ordinary rough way winter them out-of-doors; but I would like to ask if there is any one here who has had large experience in producing comb honey in 16-frame hives?

Dr. Miller—I am one. What is it you want to know?

Mr. Moore—We want to know whether you have made such experiments as you can say that you can not produce more honey in 100 10-frame hives than you can in 100 8-frame hives, other things being equal.

Mr. Taylor—In 5 years.

Dr. Miller—In answering this whole question, there is one point brought up by Mr. Taylor that I am afraid will not hold. He is taking the ground that a 10-frame hive will have more bees in it than an 8-frame hive. Not necessarily. Because when we are talking about 8-frame hives we are talking of

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having two stories to rear brood in, and having just as strong colonies as the 10-frames. To come now to answering the question directly: It is not an easy thing, unless you have a lot of 10-frames side by side with 8-frame hives. I had a good many years' experience with 10-frame hives, and then I had a good many years' experience with the 8-frame hives, but you see you can not compare them. It is not an easy thing. The fact that I have had much experience with each of them does not help me to any positive answer as to what they will do in the same year. The trouble with me is, when I make an experiment I go head over heels and change everything, and sometimes lose a whole lot by it, but I have an impression, by giving the right kind of care, I can get a little more honey out of the same amount of the 8 than of the 10—in comb honey—and allow them to use the two stories.

Mr. Moore—Dr. Miller, you are getting clear off the question. You are running in harness with Mr. Horstmann. You people are not talking about an 8-frame hive—you are talking about a 16-frame hive, and you are telling this convention that you can get more honey from a 16-frame hive than from a 10-frame hive, and you ought to. The question is, Will you get more honey, or as much, from an 8-frame hive as a 10-frame hive, as the ordinary person manipulates them, not the way you skilled people handle it?

Dr. Miller—Begging the Secretary's pardon, the question is not the way of manipulating. The question is, Which shall I take? and the manner of using is a question that comes afterward. The question is whether I shall take an 8-frame or a 10-frame hive, and then I may use one or both of them 2 stories. Don't let us get away from the question. If you want to go back to that, if you confine yourselves to the 8 frames—if Mr. Moore wants that question answered, I will answer it. Confine yourself to 8-frames, or confine yourself to 10 frames, and which will you get the most from? Ten frames, every time, if you are going to hold me down to 10 frames; but that was not the question, as I understand.

Mr. Moore—That is the way I understood it.

Mr. Abbott—Here is a point Dr. Miller does not seem to take into consideration. The bees that are in a 10-frame colony, separated and put into 2 8-frame colonies, will not gather as much honey in proportion as they will if left all together. They can not do it. The greater bulk of bees that you can get in one body, working in one hive, the greater quantity of honey you will get, and you can not take those 2 8-frame hives, using double bodies, and get the same amount of bees in the 2 8-frame hives, working in that way, as would be in one 10-frame hive, and get as good results as you could if the bees were all in that 10-frame hive, and working as one colony.

Mr. Wilcox—My answers were based entirely upon the suppositions that have been explained by Dr. Miller, and I am exactly agreed with him and Mr. Horstmann, and my system is exactly the same as that described by him without the slightest variation, and consequently I still adhere to the statement. My understanding of that question was that we were to use the hives as we pleased, which is better to adopt? Of course, if we were confined to a single story, and use the same size all the season through, the 10-frame would be the better undoubtedly. Another point I want to give: I do not know that it is of any importance except that it is interesting. I tried an experiment once. I put a few colonies in 4-frame hives, a few in 6-frame, a few in 8-frame, and a few in 10-frame, and set them all in a row close together, with young queens all the same age, and kept them 2 years, and the result was just about in proportion to the size of the hives, except that the bees in the smaller ones nearly all died the first winter.

Dr. Miller—Allow me to explain, as Mr. Wilcox suggests, I did not mean to suggest by any means that the 2 stories are used all the year round, only in building up the colonies; when they have got so strong in the spring that they need the 2 stories until the time of the harvest. They do not always need the 2 stories, but I want the privilege of using the 2 stories when they get strong enough to need it.

Dr. Bohrer—Dr. Miller answered the question categorically. He says he gets more honey from the 10-frame hive, and then he stated the chief objection there is to a 10-frame hive, and I find the same objection to it, and that is, that the 8-frame hive is decidedly preferable when you come to handle it, especially to a man afflicted with lumbago. That is the principal thing. The Doctor says he gets more honey from the 10-frame hive.

Dr. Miller—No. It is the other way; at least I am afraid I get more from the 8-frame hive.

Mr. Sewell—It has come to a rather interesting point. I would like to ask a question of Dr. Miller. Does he not get some gain, or perhaps a great gain, in taking away those 8 frames just at that time? In taking them away, or shutting the queen down to an 8-frame, you cramp her to a great extent, so that she does not produce a great lot of useless workers that are going to go on and be consumers, rather than useless workers, just at that time.

Dr. Miller—I am not sure it is safe to say anything against that generally accepted theory about rearing useless workers; but if I dared say it, I would say I don't believe in it at all. I want to rear all the bees I can at all times of the year. That thing of rearing useless workers I am not afraid of—I do not bother myself about it at all. But the question he asks is an entirely pertinent one. The taking away of those frames at that time still leaves, I think, that 8-frame hive, as much room as the queen will be likely to use during the harvest time; and even if she were in a 10-frame hive, I do not believe she would use more. You know the queen begins to limit her laying as the harvest begins to come in. I think, as a rule, they will have plenty of honey in the 8-frames. And then, please remember this: In limiting the amount in the lower story we are really not limiting the room for the bees. It is simply giving room in a different place. We give the room above, and we are giving them all the room that they need.

Mr. Moore—The importance of this discussion, from my standpoint, is this: There has been a fashion, a saying gone abroad, that to produce comb honey you should use the 8-frame hive. It is a question of what we are recommending to the bee-keepers. What are Dr. Miller and the other scientific gentlemen recommending to the bee-keepers as the best thing for comb honey? I do not believe for a moment that all these people who are not professionals, who have been using the 8-frame, have been using the 2 stories. I take it that they have been using a single 8-frame hive, and they think they have been making a profit over the 10-frame, which I think is a grievous error.

Mr. Horstmann—Mr. Moore speaks of a 16-frame hive. According to his idea, I have had 50-frame hives. I have had my hives stacked up 5 bodies of 10 frames each. According to his idea I had 50-frame hives. I say what is meant by an 8-frame hive is an 8-frame hive-body, one body that will contain 8 frames. You can pile them up as high as you please.

The meeting then adjourned till 9 o'clock the next day.

Second Day—Morning Session.

The convention met 9:30 a. m., with Pres. York in the chair. Dr. Miller offered the following invocation:

Our Father, who art in Heaven, we thank Thee that Thou carest for us. We thank Thee that Thou hast the interest of bee-keepers before Thee, even with all the infinite cares that Thou hast. We thank Thee for this meeting together for conference; for the good feeling that existed in the session yesterday. We pray that this good feeling may continue, and we ask Thee that all that is done and said to-day may be useful, that the time may be well spent. We pray, dear Father, that Thy blessing may be upon us. We know that it we have Thy blessing it will be a good deal to us. We ask it in Jesus' name. Amen.

Auditing Committee's Report.

Pres. York—We will now listen to the report of the Auditing Committee. Mr. Kimmey, I believe, is chairman.

Mr. Kimmey—We have the following report to offer:

To the Chicago-Northwestern Bee-Keepers' Association:

Your committee appointed to examine the books and accounts of the Secretary-Treasurer respectfully report that they have carefully examined his books and vouchers, and find the same correct.

Fred L. Kimmey
W. B. Chapman
J. C. Wheeler
Committee.

Mr. Kimmey—I would like to move that the report of the committee be adopted.

Dr. Miller—Second the motion.

The motion was put and carried.

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Breeding the Best Queens.

"Under what conditions or by what manipulations are the best queens produced?"

Mr. Taylor—The swarming impulse.

Dr. Miller—I believe that the same conditions that are likely to produce the swarming impulse will perhaps be as well without the swarming impulse. That is, a good flow of honey, a strong colony, and all things in an encouraging condition.

Mr. Whitney—I asked that question. From what we read in the bee-papers there are all sorts of manipulations in breeding queens by queen-breeders. I buy a good many queens, and I would like to know where I can get the best queens, or under what sort of manipulation I can get them. But what few queens I rear for myself, I find the best ones are those that are reared, as Dr. Miller says, in a full colony of bees and under the swarming impulse. I believe we get the best queens in that way.

Dr. Bohrer—I find Dr. Miller's statement is substantially correct. There is no question about that. But the same conditions will exist if a strong colony is rendered queenless, and then given fresh-laid eggs. I have slipped a frame full of eggs the night before into a colony which built the queen-cells, and then have taken them out and distributed them among nuclei, when they were finished and sealed over. I think those conditions are similar to the swarming impulse, because they will respond to the same method, give the same kind of care until the egg is matured, as they would under the ordinary swarming impulse. Now as to the best of queens, aside from that, we might differ as to the different varieties of bees, that is, different races. I have always found the highest grade of Italian bee was the most satisfactory.

Best Results in Comb Honey.

"How should 10-frame hives be manipulated for best results in comb honey?"

Dr. Bohrer—There are two ways of doing it. One is to cut it in sections, and the other—some one will take exception to the position if I should say to use another body on top, and raise the combs up and put the bees to work above. I think you would get a litle more honey that way than you would to use sections, by using a two-story hive.

Management of Golden Italians.

"Should golden Italians be managed differently from the darker varieties?"

Mr. Taylor—Yes. Kill them.

Pres. York—Who would rather manage them alive?

Dr. Miller—I think Mr. Taylor's answer is right for some of them, and it is very wrong for some of them, too. I think there is a great deal of difference. I believe there are golden Italians that are good bees, and I think there are some not worth the powder to blow them up. I do not know any difference, so I am not answering the question. I was rather wanting to limit Mr. Taylor's very sweeping statement. At the time of the World's Fair Mr. Doolittle had some of the golden bees here, and two of the best queens were left with me over winter to be taken care of before being returned to New York State, and from those I reared some queens, and those were good bees. I would not say that they were not up to the other, and I am not so sure at all that they were very much better. The main thing, I think, about the golden bees is the looks. They are beautiful bees, and there is a great pleasure in looking at them. As to the real value, as I said before, there are golden queens and golden queens. Some are good and some are very poor.

Dr. Bohrer—I want to corroborate what Dr. Miller has said, having a queen now that is one of the most prolific queens I ever owned, and her bees produced more honey last year than any other in my apiary. I do not think they are corrupted any by Cyprian blood, but I have had some corrupted, and to say they were cross is not expressing it.

Pres. York—Another question, right along in conection with that: "How do the golden Italians compare with the leather-colored varieties?"

Mr. Kimmey—I would like to hear from Mr. Taylor, the reasons for his remark that he would kill the golden Italians.

Mr. Taylor—I never saw any of them that were good for anything. Of course, I have no doubt but what sometimes you will get a queen that will produce bees that may be passably good, but, take them together, I think they are very gentle and very good to look at, but they are not very good for gathering honey. Now, to get right down to it, I would not have an Italian bee. I would rather have a hybrid. It is very much more difficult to get the Italians into the section-boxes than it is hybrids, and when you want to get them out, it is very much more difficult to get them out; and I don't know that they are any better for gathering honey than good hybrids in the matter of temper. It is true that you can go to a colony of bees and by being careful, handle them without veil or smoke. But it is not because their temper is better; it is because they are less disposed to take wing. You get out in a swarm of Italian bees when they are flying, and I think they are a good deal more likely to sting than the black bees are. I think that accounts for the difference in apparent irascibility of black bees. Several of my hybrids—they are all hybrids—I do not call irascible at all. There is very little stinging. I very seldom get stung. Get a stranger in there, sometimes, who is a little nervous, and he gets stung sometimes; but I do not call my bees any more liable to sting than the Italians I have had, when handling them.

Dr. Miller—Before Mr. Taylor sits down, may I ask him whether he thinks his bees are about like the average hybrid bees?

Mr. Taylor—Well, I do not know that I can say as to that. They are about like the average I have seen. There are some colonies that show quite a little yellow, and some colonies that show a good many bees that you would take to be black bees; but every colony shows more or less of the yellow color. But I do not know that I have a colony in the yard that any one would call pure Italians from their coloring.

Mr. Whitney—Mr. Taylor's experience has been very different from mine. I have been working all the time that I have kept bees to make them as pure 3-banders as I could possibly get. I have had quite a mixture of black bees at times, and they have always troubled me—cross, run like cockroaches. I never had any trouble with 3-banded Italians to get them off the sections when I wanted to get the honey out or have the combs free. Take a frame of honey and hold it right over the end of the hive and take them off at once. Mine are very gentle. I can go into the yard almost any time. I think I showed Mr. France once, at 5 o'clock in the afternoon, without a veil, without smoke, a number of my bees, and I think in a recent copy of American Bee Journal you will find a picture of a little girl holding a frame. It was late in the day, she was without a veil over her face, and she held a frame of those bees. They were 3-banded Italians. When you come to workers, I never saw anything equal to it before, and the only surplus honey I got this year was from my 3-banded Italians. I have 3 or 4 colonies of mongrels, one colony pretty nearly black, and they did not give me a pound of surplus honey—not a pound; while the 3-banders did; and the blacks or mongrels swarmed, and out of 30 odd colonies of 3-banded Italians I had but 2 swarms. It seems strange to me that there is such a difference in the experiences individuals have with the different kinds of bees. I do not believe I would want what they call the golden or all-yellow bee. You know the queens of the 3-banders often are absolutely, yellow, but their bees have only 3 yellow bands. I do not call such a queen as that a golden queen. I call it a 3-bander queen, although I do not see any band on the queen at all, but her bees are all 3-banders. So far as protecting their is concerned, the 3-banders beat anything I ever saw against robbers, and they will clean out the bee-moth in a very few minutes. I have put frames that were filled with the larvæ of the moth right in the center of a 3-bander colony of bees, and in a few minutes they would be all cleaned out. I like them in every respect so far as I have been able to investigate them.

Dr. Miller—I think that one way of explaining the difficulty that Mr. Whitney meets is by saying that bees vary, and that they vary very much. If you have a colony of Italian bees you are not sure, from the mere fact of their being Italians, that they will always be of exactly a certain temperament. With a hybrid bee, still less are you certain of anything of that kind. The Italian bees are more fixed in character than the hybrids. You are more sure of what you have. When you come to hybrids, you don't know for certain where you are. Now, Mr. Taylor has very gentle hybrid bees, and I have very cross hybrid bees. I look for those colonies that will produce the most honey, without regard to their temper.

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I said, "The honey is the thing I am after; I can stand all the rest." They convinced me after a while that I couldn't stand all the rest. I had to fight with my assistant. I killed a queen and she showed some temper.

Mr. Ford—Which showed the temper, the queen or the assistant?

Dr. Miller—Both. She would insist that if they only brought the honey the queen must be allowed to live. If I had it to do over again I would not do exactly the same thing as I did, because I know that the matter of temper is a thing that must be reckoned with. They can go so far you can not stand it; at least I could not, without a veil, and I do not like to wear a veil all the time. My assistant wears a veil all the time.

Dr. Bohrer—What kind of trousers do you wear?

Dr. Miller—I don't handle them with my trousers! [Laughter.]

Dr. Bohrer—Don't the bees crawl up your trousers? They do mine.

Dr. Miller—Answering your question, I wear white trousers. It is a fact that hybrids are much more variable in character than anything like the pure blood of the Italians, and when you are working and selecting to get the best, as I suspect Mr. Taylor is—he was more fortunate in it or else more careful than I, and in his selections he has good-natured hybrids and I have them just the reverse. He shakes his head. How is that?

Mr. Taylor—I did not select. I have killed just 2 queens in my time on account of the irascibility of the bees; that is all.

Dr. Miller—Perhaps I gave a wrong impression. When I have found one especially cross lot, through the years, I have killed that queen, always; but I have not paid as much attention as I should have done to the temper of queens. There is, I think, the whole thing in a nutshell. The bees vary a great deal, and if one man says the Italians are better, and another says the hybrids are better, they may have different kinds of the same bees. I believe, as a rule, that the hybrid bees will give you more honey than the pure Italians. Now it does not follow from that that it is the best thing to breed entirely from hybrid bees, because they will split all up and you don't know where you are going, as I said before; if you keep trying to breed pretty near pure Italians, you will get enough hybrid stuff in to keep up the black. Try to keep them pretty nearly pure, and you will have more or less black blood in them.

Mr. Taylor—Some reference was made to the Doctor's trousers. I have often been amused in the remarks he has made in his writing about the bees getting up his trousers.

Dr. Miller—Please allow me to correct you. I did not say anything about their getting up my trousers.

Mr. Taylor—They don't crawl up my trousers. They fly. The trouble with your bees, Doctor, is you have too much Italian blood in them. They won't fly at all.

Mr. Kimmey—You speak of Italian and hybrid. We started out to speak about golden. I understand there is a difference between 3-bander and golden.

Dr. Miller—Yes.

Mr. Kimmey—What is the difference, in your experience, between the 3-bander and the golden?

Dr. Miller—As I said before, the goldens vary so much it would be hard to answer that directly. Some of them are one kind and some of the goldens are another. They are a variation from the pure stock. I do not count them as pure. There may be black blood in the golden stock, in the leather-colored variety, or in the 3-banders. I would not expect to find any black blood in them, although possibly there might be some there, and the thing has got where I do not see how we are going to talk about what pure queens are. If you have golden stock with 5 bands, and then get a little black blood mixed in and cut down to 3 bands, then you can not say 3 bands is a sure sign of pure stock.

Mr. Wilcox—What is your standard of purity, then?

Dr. Miller—I haven't any.

Mr. Lyman—I don't know that I am correct in this, but it has seemed to me that there is quite a little difference in which way the cross is made, whether you start with an Italian queen or a black queen I think in my experience that the black queen cross, from an Italian drone with a black queen, produces a gentler bee than the other cross.

Mr. Sewell—I hate to hear the golden queen slandered here. I would like to speak right out in meeting and say where the golden queen comes from, and you will know what I am talking about. A golden queen from one breeder and one from another are different. If I say it comes from Doolittle, you know what it is. That queen led the yard, after coming from New York State by mail; but this year a leather-colored queen led the yard. And so it is—one year it may be one, and another year another. But those golden queens have decided advantages. One is finding the queen; another perhaps is gentleness; and those golden bees crossed with some of the other blood are very prolific. In managing and manipulating them, getting hives for them, etc., I have an idea that the 8-frame hive would be very much better for them than the 10. I have had leather-colored queens from about 5 different breeders. Some were not good for anything. Some have been very good. They are very prolific. They lay, all the year round, more than the golden, but they lay in the spring—they just fill the hive all at once, while the golden queens will lay right straight along through the year. Two years ago the flow was a gradual one all through the year, and that is the reason I think the golden produced more honey than the other bees, whose queens laid the hive full of eggs all at once, and then later on perhaps were a little scant with their brood. But I would like to hear more of an expression, or, if the thing was reliable, I would like to know just exactly which the best bees are.

Dr. Miller—That you will never learn.

Pres. York—You will have to read the advertisements, and then try yourself.

Mr. Sewell—I have read the advertisements. I have had queens from at least 8 breeders; I do not know but from more. It is a very interesting study to me, the more different traits from different breeders, what I can produce and what I can get from the different kinds of queens. I can not always get the same thing even from the same man, of course. A golden queen has very decided advantages on one side, and perhaps the darker varieties have advantages on the other side, and it depends largely on the year, the honey-flow, etc., just which kind is wanted, and you can not always tell just what it is going to be beforehand.

Plain Section or Bee-Way?

"Which is the better, the plain section or the bee-way section?"

Pres. York—How many prefer the plain section? Raise your hands. None.

How many prefer the bee-way section? About 10, I think. Do you want to say anything about this?

Pres. York—Why do you prefer the bee-way section over the plain? I think Mr. Taylor raised his hand on that.

Mr. Taylor—Yes. One reason is that they are at least as good as plain, and I do not have to change.

Miss Wilson—They are easier handled.

Mr. Abbott—My reason is that you have to have less traps. I do not use separators. I could not use a no-bee-way section without a separator.

Dr. Miller—Why are they easier handled? Miss Wilson has handled a good many of both kinds.

Miss Wilson—When the plain sections are filled right out plump to the wood you are apt to break the honey in scraping them and getting them ready for market; and if they fall over, as they tumble over easily, they are more apt to break.

Mr. Taylor—Let me ask Miss Wilson, if they fall over, as they evidently are bulged a little, and the comb strikes—is that what you mean?

Miss Wilson—Well, it may not be that they strike that, but there may be a little something on the board that may fall on to them, just a little tiny bit.

Mr. Taylor—In regard to cleaning and packing them, if that was the case the combs would touch.

Miss Wilson—Yes, I think they would, perhaps. You have to be very careful.

Mr. Taylor—It always seemed to me—I have never tried them, I don't want to try them—but it always seemed to me that there would be more or less difficulty in that way, that they would be slightly bulged and interfere in packing.

Miss Wilson—But in handling them and scraping them you are so apt to put your finger in them. When you handle a great many in one day it is quite a drawback.

Dr. Miller—You say when they fall over. Do either fall over?

Miss Wilson—Yes, sometimes.

Dr. Miller—Which one falls easier?

Miss Wilson—The plain section.

Pres. York—When I was in the honey business I handled a good deal of honey in plain sections, and they were put in shipping-cases just the same as the others, but I did not notice any scrap-

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ing of the combs in pulling them out. Of course, in a shipping-case they are very close together, but you can begin to take them out with a knife-blade. They are put in without separators, but I could put my knife-point in and lift them out.

Miss Wilson—I have often wondered how they got them out.

Dr. Miller—These differences refer to the separator rather than the bee-way sections. Those sections as first made, and as I used them, were the same width as those that had a bee-way or notch at the sides; but the difference was made by making the separator—a wood separator—3-16 of an inch.

Pres. York—A slotted separator.

Dr. Miller—No, a wood separator 3-16 of an inch thick, which left room for the bee in at the bottom.

Pres. York—Slatted then?

Dr. Miller—Yes. The section was a plain section, but in order for the bees to get into it they must be spaced apart, and the spacing was made in the separator. You could not use them without the separators. As you use them now, as I understand it, and I think I am right, the spacing must be in the separator.

Pres. York—They do not use the plain separator. They use the fence separator.

Dr. Miller—The question is raised as to how to get those sections out of the case when they were packed in solid. One way is to turn the case upside down carefully and dump the whole thing out. There would be no breaking in that way. That is a little awkard. Another way is, suppose your case holds 12 sections, put in 11 sections, leave one space vacant with a little bit of separator there packed in, and you can open that one. I am not insisting that you shall use the plain sections, but I am trying to tell how those things may be done. After using a number of thousands of them I prefer the old-fashioned bee-way section. But let us be fair with it. There is an advantage which the plain section has. I remember a good many years ago seeing Mr. Heddon stand up here and talk about sections with separators. At that time he had a super in which no separators were used at all, and he said, "You take the section that has been produced with the separator. It has a lean look." And that is a fact. The plain section is plumper looking than the other. I am not sure that I think of any other advantages now, but I do think we ought to be entirely fair to the plain section, and this is a one-sided business; those who prefer the plain sections ought to be allowed to tell us why they prefer them.

Mr. Taylor—Just let them tell.

Mr. Lyman—Doctor, you mean the plain section of honey looks plumper?

Dr. Miller—Yes, it looks plumper. It it filled out fuller at the end.

Mr. Thompson—If paper is put around any section in a case it can be lifted readily, and that gives room for each of the rest.

Pres. York—I think we all understand that the shipping-case as made today, has a follower-board at the back and a wedge or paper is put back of it so they can be readily taken out.

Miss Wilson—In the cases that were sent to us there wasn't any space allowed. They just fitted tight.

Dr. Miller—I would like to hear the views of those who prefer the plain section.

Pres. York—Nobody voted in favor of the plain section.

Mr. Kannenburg—I do not care much for the plain section, but I like to see the looks of it, and in one way they are nicer to clean than the bee-way section. I handle both of them, and I have no trouble at all to get them out of a shipping-case or out of a super, because there is always space enough so that you can bend, turn a little on the side to take hold with the fingers. As far as the cleaning of the plain section goes, there is not so much propolis as there is with the bee-way section. You do not have to go into the corners so much with a knife to clean the corners out. The beeway sections are all filled with propolis in the corners, every time, and it takes twice as long to clean one super with the bee-way section as it does with the plain section.

Miss Wilson—I do not agree with you.

Mr. Kannenburg—Another thing I like, if you put the bee-way section and the plain section on the table before a customer, every time he will take the plain section.

Mr. Kimmey— I did not vote on this question, because I did not know anything about the bee-way section. My little experience has been with the plain section. As for taking them out of the case in packing, I have never had any trouble. Even before I produced any honey myself, or had my bees produce it, it always seemed to me that the plain sections were preferable. I drop into Siegel & Cooper's and I ask them what they are selling honey for, and I notice the looks, and it always seems to me that as far as appearance goes the plain sections are ahead. I know you come to weigh them there isn't the turn of your hand in favor of one or the other, and yet, as has been said, it always looks to me as if the plain had a better look than the bee-way. I do not feel qualified to speak for anybody else as to which is the better. I wish I had some of the bee-way myself, after hearing these gentlemen talk, and this lady. I do not want you to think because I did not vote that I did not have any opinion.

Mr. Taylor—I just want to say, with reference to bee-ways, there are a good many of these plain sections sold. I have sold some honey that way. I have one customer that I sold a ton to for 4 years, certainly each year, or perhaps 5 years, and he always says, "I can get plenty of honey, but I like your sections better." and he takes my honey on that account. That is, that decides him finally.

Dr. Miller—I would like to know whether that is anything like the general experience, whether dealers do prefer it ordinarily. Have we any testimony with regard to that, one way or another?

Mr. France—Up in our State the dealers almost invariably want bee-way sections. The large complaint is that the other one looks nice, but there is not room for handling, and they press in with the fingers, and they are hurt by handling.

Miss Wilson—The man to whom we ship our honey said he did not want any more plain sections.

Mr. Abbott—I think they have not emphasized the main trouble. It is not the section as it stands by itself that bothers me. The old bee-way section is all right. It is the traps that must go along with it in order to use it. They are frail and are easily broken up. You can't clean them, and they are a source of constant expense. I think our people probably make as good fences as anybody, but I throw away—well, I wouldn't say how many out of every lot they ship me, because they get broken, and I seldom ship out a crate of hives to anybody but what there is some complaint about the fence separators being broken. You can not handle the no-bee-way section without the slotted separator, or the old Armstrong separator which had a slot in the bottom and made the finest looking section of anything I ever saw. But there was too much lumber in that beehive—it cost five or six dollars in the flat, and you could not afford to pay that much. It is the things that are necessary in order to use them that make me object to the plain sections.

Dr. Miller—I must say that this is really a great surprise to me. I try to keep up with the procession and know what is going on, and I read and find that the plain section is away ahead, that it is the thing to use, and then I come here and find a lot of old fogies who say that the bee-way section is the thing. Their grandfathers started with the bee-way sections and they are going on with them, and it seems to me that somebody ought to do a little missionary work and wake them up and let them know they are not up to the times; that the plain section is what we ought to have.

Mr. Taylor—Why not do the work on the manufacturers of the plain sections?

Dr. Miller—Well, there is a point. Seriously, it is a surprise to me to hear the expressions here this morning, and I would like to ask this question: Suppose the plain section is very much better than the other, there are two ways for accounting for the apparent feeling with regard to it here. One way is to suppose, as I have already supposed, that there are a lot of old fogies here that don't know what they ought to do. There may be two ways still. One is that they are not old fogies, but they never had testimony enough to make them think it worth while to try the plain section.

Mr. Lyman—Some of us have been through the mill, Doctor.

Dr. Miller—I was going to say that there is still another way, that they have tried them, and, after trying them, they believe that the bee-way sections are better. I would like to ask how many have tried both kinds. If you will allow me to see the hands—just keep them up and let me count them—12. Now of those 12 I would like to ask two questions. I know that I have an answer to both of them, but I want to

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get something definite. How many of that 12 prefer the bee-way section? Let me see the hands—8. How many prefer the plain section? 3. How many do not care which? 1.

Mr. Abbott—Let me tell you another thing. Out of 10 carloads of goods sold down in Missouri, we will sell probably a wagon-load of plain sections—not more in 10 carloads.

Mr. Kannenberg—It might be that they like the bee-way section because they started in with it and hate to change to the plain. It costs money to change.

Mr. Taylor—I want to have the Doctor put another question. If a man is producing thousands of pounds of comb honey and has to handle it, that is one thing. If he is producing 200 or 300 pounds, that is quite another. I want you to ask these 3 gentlemen here who have voted in favor of plain sections, how much comb honey they handle.

Dr. Miller—Will they kindly tell us.

Mr. Thompson—A very small amount. Perhaps 2 tons would be the most in any one season.

Mr. Pease—40 tons.

Mr. Blume—The lowest I ever had was 2 tons.

Dr. Miller—Let me state that it still remains a surprise to me.

Pres. York—Maybe you are easily surprised, Doctor.

Dr. Miller—I am not easily surprised.

Mr. Arnd—My experience is the same as Mr. Abbott's, about selling sections. We sell, I think, almost 10 bee-way sections to 1 of the plain.

Dr. Miller—My reading makes me believe that the plain sections are ahead as to number, and as to quality.

The Members—No! No!

Mr. Taylor—Doctor, you have read enough and written enough to know that there is not much dependence to be put on printing! [Applause.]

Dr. Miller—There is another point. There are a good many bee-keepers who have commenced lately, and they want to take up the best thing. Here is Mr. Kimmey, he is a man who is looking out for the best—he reads, and he knows that the plain sections are away ahead, and he takes the plain sections. He is pleased with them. He doesn't know anything about any others. I don't blame a man of that kind for thinking that the plain section is the best. Now the question is whether we are doing the right thing not to try to let the whole truth be known. The whole truth is not known on that.

Mr. Lyman—I started with the plain and I shall use the bee-way hereafter.

Mr. Whitney—I do not know anything about the plain section, but Mr. Abbott says that he sells very few of the plain and a large quantity of the bee-way. We lose sight, I think, of this one fact, that the plain section has just been introduced, and it takes time, even if you introduce a good thing.

Pres. York—Especially in Missouri! Mr. Abbott lives in Missouri, you know. [Laughter.]

Mr. Whitney—I think it is hardly fair to say that the plain section is not as good as the bee-way because we do not sell quite as many of them at the present time. It takes time to introduce a good thing—we all know that. I don't know anything about the plain section. I have not used anything but the bee-way. Some old bee-keepers up my way, who are interested a little in bee-keeping, got the plain section. They do not like them, but they are using them because they have a supply on hand. They think that the fence separator is such a frail thing and breaks up and annoys them a great deal; but I think that if the time ever comes when we get a fence separator that will be substantial—and I think that will come—they may be regarded as the best sections to use.

Dr. Miller—If you will allow another question, it will help bring out the point that Mr. Whitney makes as to the time required. That is true. It takes time to introduce a new thing, and a good thing. Now the question is, Is the number of plain sections increasing regularly through this time? Will Mr. Arnd and Mr. Abbott tell us?

Mr. Abbott—No, sir. It is the people who have tried them who object to them the most. I send them out once in a while to people as samples in the hives, and they always say, "Don't send me any more of those traps."

Mr. Arnd—I have not had real experience enough in the bee-supply business to know, because I have been in it only 2 years.

Mr. Abbott—I have been in it 20 years.

Mr. Kannenberg—The fault is this: I find with the plain section that you can not produce as much honey as with the bee-way section, because the bees have to fill out the combs on those sections, but they won't get as much honey in it, because when you weigh one super, and then the other, you will have less honey and more wax, more wax to draw out, more comb to draw out. It takes a longer time for the bees.

Dr. Miller—I don't believe it.

Mr. Kannenberg—Doctor, you take a super full of plain sections, and take a super full of honey in the bee-way section. Which will have the most honey in it?

Dr. Miller—Do you have separators in both?

Mr. Kannenberg—Yes. You will have more honey in the bee-way section than you will have in the super full of plain sections, every time; and it is because of the drawing out of the comb.

Mr. Wilcox—I have a little evidence that bears on this question, although since the fence separator came into fashion I have discontinued producing comb honey; but I have judged honey at the State Fairs in recent years, and I invariably give the premiums to the no-bee-way sections. Noticing that fact myself, I began to inquire of exhibitors as to the conditions in the market, and so far as I can learn nine-tenths of them prefer the no-bee-way sections; that is, that they sell better on the market—the plain sections; that they look better and sell better, and I am sure that, for some reason which I do not understand, they looked better to me on exhibition, and I gave them the premium. They were better filled out.

Mr. Kimmey—Will Mr. York give us his opinion, founded on his experience?

Pres. York—I have not used very many, but I like the plain section better for cleaning. I have had the same experience as Mr. Wilcox in judging at fairs.

Mr. Kimmey—How about the sale?

Pres. York—I do not think it makes any difference in the sale, not from my experience in the groceries in Chicago, when I was in the honey-business.

Mr. Kimmey—I would like to hear from Mr. Pease, too, both as to the requirements of the trade, as to bee-ways and no bee-ways, and as to the quantity of honey.

Mr. Pease—I find that the groceries, as a rule, make very little distinction as to a matter of preference between the bee-way or no-bee-way section. The grocer in Chicago buys his honey by weight, and sells it at so much per section. They do not want a honey full weight, but the consumer who goes to the grocery store to buy honey—you put a plain section and a bee-way section side by side, and 9 times out of 10 he will take the plain section, even if it weighs less than the bee-way.

Mr. Moore—The grocery trade wants a section weighing 12 or 13 ounces, and 12 or 13 ounces looks vastly better in a plain section than in a bee-way section.

Mr. Whitney—I have two styles of bee-way sections. I have a big super that belongs to the old Gallup hive, and it takes a section 4¾x5⅝, and I think if you place a section of that kind by the side of a plain section they will take mine every time. It will look larger although it is not quite as wide, but it is a little taller, I believe, judging from the appearance, of course. You take a 4¼x4¼ bee-way section and it looks lower, and they decide in favor of the plain section because it is tall, but you take the bee-way section that is as tall as the plain section, and I think they will take the bee-way section, every time.

(Continued next week.)

Why Not Advertise?—There are many dealers in bee-supplies, and those who have bees and queens for sale, who are not now advertising, that might increase their business by advertising in the American Bee Journal. The rates charged are very low, as will be seen by referring to the second page of this number. During the next 6 months will be done the bulk of the season's business among bee-keepers. Why not begin at once to let the readers of the American Bee Journal know that you have something to sell? Our advertising columns are open only to those who will give their patrons "a square deal." If you are in that class we will be pleased to have your advertisement in our columns.

Getting New Subscribers for the Bee Journal is something that almost any reader can do if he makes a sincere attempt. No one knows better than does he its value to every would-be successful bee-keeper. And we offer valuable premiums, to those of our present readers whose subscriptions are paid in advance, for the work of going out and getting new subscriptions. Your neighbor bee-keepers perhaps have never heard of the American Bee Journal, although it is now in its 47th year. Why not try to get them to subscribe? You may be surprised how readily they will do so upon your invitation.

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Worcester Co. (Mass.) Bee-Keepers' Convention

The second annual meeting in an Institute with the State Board of Agriculture was held most successfully in Horticultural Hall, Worcester, on Saturday, Feb. 16, 1907. At 10:30 a.m. the meeting was called to order by Pres. Burton N. Gates, who introduced Hon. J. Lewis Ellsworth, Secretary of the State Board. Upon invitation Mr. Ellsworth presided at the morning session. After a few remarks on the conditions of bee-keeping, and the progress it has made the past few years, Mr. Ellsworth presented Mr. George W. Adams, of Byfield, Mass., who gave the address for the Board of Agriculture. His subject was, "Problems in the Intelligence in Bees." This subject, while not so much before the American bee-keeping world as before the European, was most admirably presented. We are inclined to be dogmatic in things of bee-life; it does not pay to be so. We are also likely to surround the activities of the hive with mysticism and magic. But these are not the spirits of the true investigator. Mr. Adams did much to strip off the old garb of the subject, and present it in its truest light.

One fact which Mr. Adams emphasized, is that the bee has intelligence. By this he would not imply faculty of reasoning in the sense we think of the term, but rather as an intermediate between mere machine activity and reasoning as we view it. In proof Mr. Adams gave illustrations and quotations from his long experience as a bee-keeper from his reading.

Dr. James P. Porter, of Clark University, Professor of Psychology and Student of Animal Behavior, followed Mr. Adams in discussion. Dr. Porter could but commend the address of the previous speaker. He also pointed out that we are too prone to allow our own —our human—emotions to enter into the reading of animal behavior. In this state, unlike the true attitude of the scientist who looks at things in a matter-of-fact, more-or-less-cold-blooded way, we are not inclined to judge.

Investigations show that bees have memory. A bee may be intoxicated by a stimulant in the food, and made, thereby, to forget its way and bearings.

"Bees are intelligent rather than reasoning. They work in accord with their experience. The dog, trained to do tricks, will start to walk on his hind legs around a table; but when out of sight will drop to all fours, coming to his hind legs when he gets in sight on the other side. This would appear reasoning to take advantage of the master. But analyze the matter: How was the dog trained? When the truth of the matter is learned the dog received, every time that he came to all fours behind the table, a morsel of meat; whenever he failed he got no meat. In this case, superficially looking like cunning and reason on the part of the dog is really a matter of training, of experience. So it is with most animal action, though not always purposeful, or even conscious, on the part of the trainer. This does not show reasoning on the part of the dog, but is rather the result of remembering that if he does an act in such a way he will be rewarded. Science calls this *intelligence;* it is this kind of intelligence that the bee acquires."

After the morning session there was a banquet in the dining hall. Nearly 100 sat down to the dinner, and the hall was filled with the merry din of bee-keepers, each telling the other of his fine crops, the superiority of certain honey-flows, what he will do next season, and a multitude of other bee-keeping tales.

The afternoon session, presided over by Pres. Gates, was called to order at 2 p.m. The first speaker was Dr. Fred Kuhlmann, of Clark University. Dr. Kuhlmann, like Dr. Porter, is a student of psychology, and has made some quite unique investigations of bees, the results of which we believe have never been made public before. This address, without the curves and tables which Dr. Kuhlmann used to illustrate his talk, is not satisfactory, and is best not to attempt to report.

The pith of Mr. Kuhlmann's paper was the "Rhythm of Daily Activity in Bees," and results from watching marked bees for a season, 20 minutes per hour, 24 hours per day.

It will suffice to say that work was done not only with the worker-bees, but also with the queen and the drones. The results are not in accord with the proverbial "busy bee" theory. If the Doctor is right, the bee, individually, works but a very small portion of the day. The busy appearance of the hive is due to a little work by a great number rather than from much work by a few. We hope this paper may soon be published with charts and tables.

The next speaker was Mrs. Florence Richardson, of West Medford, Mass. Mrs. Richardson is Secretary of the Massachusetts Bee-Keepers' Association, and spoke on "A Woman's Experience with Bees." She is a most practical "bee-master." She says that she has tried nearly everything recommended by others, and now has the profit of much valuable experience.

Mr. Charles H. Goodell, of Worcester an old-time bee-keeper, read a paper on "The Importance of Bees to the Fruit Crop." While the writer did not pretend to be giving any startling discovery, he emphasized the importance of complete fertilization of apples and strawberries, and of the fruits. It is well known that the apple ovary is 5-parted, and in order to insure a well-filled-out apple, must receive no less than 5 fertilizations. The strawberry, too, is an aggregate of a great number of ovules, and, in order to develop well, must receive some 300 pollen-grains. This work of fertilization is largely the work of bees.

Mr. Arthur C. Miller spoke for modern investigation in bee-keeping. In part he said: "Bee-keeping is very little advanced from what it was 1500 years ago. At that time, in the Sicilian Isles, it was much developed in advance of all other parts of the world. We can not make progress if we religiously cling to the tradition of our fathers, and do not attempt to investigate doubt.

A general discussion followed the reading of the papers. Single-walled hives, covered with tar-paper instead of air-spaced, or the miserable chaff hive, were advocated by Mr. Miller.

It was concluded that the long section-box is a more salable shape than the older square one.

The interest of the session was so great that it was 5 p.m. before we adjourned. REPORTER.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short artiele on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

The Sixth Annual Report of the Illinois State Bee-Keepers' Association has just been issued, containing 176 pages. Its contents, besides considerable miscellaneous matter, are the 1906 reports of the Illinois State Bee-Keepers' Association, the National, and the Chicago-Northwestern. There are a number of very fine engravings of apiaries, the Illinois State Capitol, etc. Cloth-bound copies were issued for the members of the Association only, and will be sent out as long as they last to any who become members on the payment of $1.00 to the Secretary, which not only secures a cloth-bound copy, but membership in the State Association one year, and the same in the National Association. A paper-covered copy of the Report will be mailed to any one who sends 15 cents to the Secretary to pay postage and wrapping. We think the Sixth Annual Report is as attractive and instructive as any we have ever issued. General Manager N. E. France says concerning this Report: "It is a credit to all concerned in getting it out."

JAS. A. STONE, *Sec.*
Route 4, Springfield, Ill

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Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

STARTING IN BEE-KEEPING.

The Saturday Evening Post of May 25 contained an article upon "Quitting the Strenuous Life," which spoke favorably of bee-keeping as a means to that end. The author, Mr. Forrest Crissey—and I say by way of parenthesis that I am a bit proud of the fact that so excellent a writer was a pupil of mine in the days when I was "schoolmaster"—the author, made mention of my name in such a way that a small deluge of letters has come to me with inquiries upon the subject. To answer by mail is out of the question, and I am sure it will be much better for me to answer in this department, as very nearly the same answer will apply to all, and I can thus answer quite fully.

Wisely, nearly all inquire as to a book of information, and some inquire where, and at what price, the book, "Forty Years Among the Bees," can be obtained. You can get it by sending to the publishers of this paper, George W. York & Co., one dollar. That book gives in detail just how I manage my bees, as well as I know how to tell it, but I do not advise it as a sole book on bee-keeping. If you get only one book on bee-keeping, you can not go amiss to get "A B C of Bee Culture," "Langstroth on the Honey Bee," revised by Dadant, or Cook's "Manual of the Apiary." Either of these you can get from the publishers of this paper by sending $1.20. They are written in easy, non-technical language, easily understood by one with no knowledge of the subject. Then if you want to get "Forty Years Among the Bees" as a companion book I have no objections to offer. Some make the mistake of thinking that a monthly or weekly publication upon bee-keeping is all that is needed. The periodical is all right along with the book, but if you can have only one, be sure it is a book. The book gives the foundation knowledge that you need, and the periodical keeps you up to the times.

As soon as you get your book, go to work reading. Some things, very likely, you will not understand. Don't worry; skip the hard places. Very likely they will be easier on second reading. If you are a subscriber to this paper, this department is at your disposal, allowing you to ask any questions you like. This department, however, is not intended to take the place of a text-book, but to supplement it, and when you have given your book the second faithful reading you will probably find there are still plenty of things you want to ask questions about. Indeed, one of the beauties of bee-keeping is that you never get to the end; there are always fresh questions arising to keep alive the keenest interest.

No, I don't sell bees, and if I did you shouldn't buy from any one so far away. Railroads generally will not carry bees as freight except in car lots, so you would have to pay expressage, and that's fearfully expensive. Your better way is to buy from some one close at hand, so as to save expressage. By inquiring you are likely to learn of some one within a mile or so who will deliver them to you. If you can have delivered to you a colony of Italian bees in a movable-frame hive for $10.00, you will do well. But you needn't be so very particular about the kind of bees or of hive. After you have studied your book you ought to know how to get into a good movable-frame hive a colony out of any kind of a hive, or even out of a cracker-box or nail-keg. You ought also to know how to change in 6 weeks' time from poor scrub stock to Italian blood by paying out only a dollar or two for an Italian queen.

Prices vary a great deal. I said you would do well to get good blood in a good hive at $10.00 a colony, but you may happen in some neighborhoods to get the same for $7.00 or $8.00. For impure blood, especially in poor hives, you may pay $5.00 or less. You'll have to pay the going rate in your neighborhood.

If you can not buy conveniently near, and have to send to a distance, then get a 2-frame or a 3-frame nucleus and let it grow. In that case one advantage is that you can have pure Italians to start with. At any rate the expressage will be much less for nuclei than for full colonies. If you buy at a distance, you will likely find in this number of the American Bee Journal an advertisement of a good place to buy.

That leads me to speak of reliability of advertisers. One of you asks if a certain firm selling hives, etc., is reliable. Entirely so; and what's more, I don't know of any of the firms doing business in that line now that are not reliable.

"What is the best hive?" Well, a bee will gather the same amount of nectar in a day whether its home is a gilded palace or a nail-keg. The choice of hives is rather a matter of convenience for the bee-keeper than for the bees. Certainly you must have a movable frame hive, and one of the simplest as well as most popular is what is called the dovetailed hive, the same as the writer uses. If you are going to work for extracted honey, get a 10-frame dovetailed hive. If you're going to work for comb honey—it takes more skill to run for comb honey—you will still do better to have a 10-frame hive, unless you mean to give a great deal of attention to the business, in which case it may be better to have an 8-frame hive.

May or June is a good time to buy, the farther south the earlier. Still you can begin any time during warm weather.

"How many colonies shall you start with?" If you have money to burn, you can start with 100, and then the likelihood is that you will be out of business inside of a year. For most people perhaps 2 colonies is the best number to begin with. You can have a lot of fun with a single colony, but there are advantages in having 2. In any case, please don't think of starting with more than 6.

Now you will not feel hard toward me for not writing you a private letter, will you? I would hardly have got all this stuff into a private letter, and I get so many letters all the time about bees that the only way I can do is to treat all alike and answer them in print. But don't let that deter you in the least from asking any question to be answered in this department, provided you are a subscriber. If not, better send your dollar to the publishers at once for a year's subscription and enough more to get a bee-book.

USING CROOKED COMBS WITH HONEY.

What few bees I had died out last winter, and they left some combs with honey in. I intend to send for a nucleus in a few days, and I want to give the honey to the bees when they get here. The combs are in bad shape—too crooked to use. How would it do to put them into the hive with a dummy between them and the bees, or is there a better way?

MINNESOTA.

Answer.—Your plan is all right if you will look out for two things; one is, that you must not let brood be started in these crooked frames, and the other that you must not let robbers get a start. Have the entrance very small, and don't let it open into the part where these combs of honey are.

UPPER MICHIGAN FOR BEES.

Is the Upper Peninsula of Michigan good for bees?

Answer.—I'm not too sure about exact localities, but I know that in what is called Northern Michigan there are locations that are excellent; the pine lands being burned off and wild raspberry and fireweed coming in abundantly.

LATE FEEDING OF THIN SUGAR SYRUP.

The statement of F. L. Day, page 433, that he always feeds his bees all the syrup they need of half sugar and half water after Sept. 20, and that last fall he finished feeding Oct. 1, and no trace of dysentery resulted, certainly comes to me as a surprise. Of course, something depends upon how much Mr. Day means when he says his bees "are fed all the syrup they need." If each colony needs only half a pound to a pound, then there would be no harm expected. I take it, however, that Mr. Day feeds a considerable quantity. However safe it may be for Mr. Day thus to feed, in the face of reports of other cases in which results were disastrous, it would hardly be wise in general to advise such late feeding of thin syrup.

WEARING A BEE-VEIL.

You say in "Forty Years Among the Bees" that you wear your veil so that it can be pulled down over your face at a moment's notice. Do the bees always give you the moment's notice? Mine didn't the other day.

IOWA.

Answer.—Y-es, I think it's pretty fair to say that I never fail to have a moment's notice. Well, hardly ever. If I were to be compelled to go and open a hive at this present moment, I would have more than a moment's notice to pull down my veil. You see, I don't need to have notice from the bees always. Just now the fact that it is raw, cloudy, and cold is notice enough before I leave the house. When weather is fit to work at bees, it sometimes happens that the first notice I have that my veil ought to be down is when a bee stings me; but that doesn't often happen. Either by the way the bees appear in the hive or in the air, I generally have time to pull down my veil before I am stung. In fact, unless bees are very good-natured I generally have my veil down anyhow.

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PUTTING ON SUPERS.

1. When you commence to put on the supers for comb honey, would you examine the colony as to signs of swarming?

2. Would you leave in the hive combs containing brood, or take them out?

3. What would you do with any combs that do not contain brood, whether in the brood-chamber or below it or above it?

4. Would you take out all combs found in the brood-chamber and put frames in the place that have only starters. INDIANA.

Answers.—1. Generally no attention is paid to the matter of swarming when supers are given.

2. In most cases no change is made in the brood-chamber at the time of putting on sections. But in the case where more than one story has been given, all but one story will be taken away at the time of giving sections.

3. I'm not sure whether I fully understand your question. At any rate, on general principles, I may answer that in some cases combs without brood are left where they are, and in some cases taken away. If taken away, they may be used where needed for other colonies, and if not needed at once elsewhere, they may be stored in some safe place away from the bees, although safer from moth if piled up over colonies where the bees can care for them.

4. If I understand this question correctly it is already partly answered in answer 2. If for any reason full combs are to be replaced with frames that do not contain comb, it is generally considered advisable to have these latter entirely filled with foundation, so that the frames may contain no drone-comb.

MAKING THE T-SUPER.

I made a T-super on trial, but I am stuck in putting in the staples. You say: "Put the middle support exactly in the middle of the super, measuring inside." But I don't make that spacing come right. My supers are 18¼ inches long inside and sections 4¼ x 4¼ beeway. Now suppose I put the tin exactly in the middle and a section on each side of it lengthwise, then another tin on each side, and another section on each side. This leaves a space on each end. What should be done with those spaces, and where can we nail the flat tins? It seems hard work to get us to understand all there is about the T-super. MICHIGAN.

Answer.—Your supers are too long. Nail in one end a board ⅞ thick, thus reducing to the right inside length, 17⅜. Arrange to have the middle T-tin at the middle of this inside length, and the other two T-tins midway between the middle T-tin and the ends. The flat tins that support the sections at each end of the super are nailed directly on the bottom edges of the ends, the super of course being turned upside down while being nailed. In your case one of the flat tins will be nailed on the block that is nailed into the end.

If this doesn't make all clear ask all the questions you like.

REMOVING BEES FROM A HOUSE-CORNICE.

1. I have 2 colonies in the cornice of a house. How can I get them?

2. Can I take them away several miles?

3. When, and how? SOUTH DAKOTA.

Answers.—1. It isn't the easiest thing in the world. You must have a ladder, scaffold, or something of the kind to get where the bees are. Enough of the boards must be cut away to expose fully the combs. Cut out the combs, put them in a basket, or other receptacle, with enough sticks between the layers of combs to prevent crushing the bees. Be sure to get all the comb cleaned out, so there will be no attraction for the bees to go back to the old place, and to make more sure daub where the combs were with carbolic acid. Let the basket hang till evening, so all the bees will be settled in it. Of course you will use smoke, and the work should be done at a season when bees are gathering or there will be a bad case of robbing.

2. Yes.

3. You can take them away the same day or evening, just as soon as all the bees are settled, and there will be a decided gain in thus taking them to a distance, for if taken only a short distance the bees would return the next day to the old place. Taken after dark, the bees will stick to the basket without fastening, or you can sew a sheet around them. When you get them to their new place (better wait, though, till next morning), you can put the bees in a hive, doing as you like about putting part or all of the old combs in frames.

THE LYMAN METHOD OF SWARM CONTROL.

On page 411 is given the Lyman method of swarm control. I wish to ask you a few questions in relation to his manipulations with his double bottom-board.

1. Would it do not to remove the queen from the rear or old hive for a day or two, as the larger part of the bees would then be in the new hive, and thus make it easier to find her?

2. How would it do to introduce a laying queen in the new hive and let the old queen go on with business in the old hive, sending her bees forward into the new hive until her supplies were exhausted, and thus have 2 queens to supply the one hive so long as the old queen could hold out?

3. If one wanted increase, how would it do to introduce a laying queen into the new hive and remove the old hive to a new stand? How long before the old hive should be removed?

4. Suppose the honey-flow is on, and the bees are slow to enter the supers, how would it do to substitute a super or two of sections, or an extracting super, in place of the new hive, and then in a day or two place the old hive back on its stand and the supers on top, with plenty of room? Would not this manipulation prevent swarming?

5. Can not some of our most experienced bee-men see through Mr. Lyman's double bottom-board the key with which to unlock Mr. Davenport's chest of secrets of which he spoke a few years ago, but failed to reveal?

Many bee-men doubt whether Mr. Davenport made the discoveries he claimed. Let that be as it will, I believe the very things he claimed to have discovered will yet be revealed to us. We have the key already in our hands. ILLINOIS.

Answers.—1. It probably would work, but hardly so satisfactorily. There would be no brood in the front hive, nothing to make it seem like home to the bees except what was in the super, and the bees would not be so well contented without either queen or brood. If, however, the finding of the queen in the full colony seems too serious a matter, you might compromise the matter in this way: Without paying any attention to where the queen is, put 2 frames of brood with adhering bees in the front hive. Three days later you can tell by the presence of eggs in which hive the queen is. If she is not in the front hive, find her and put her there, and put the 2 brood-frames from the front into the rear hive. If she is already in the front hive, all there is to do is to change the 2 frames of brood. I think this ought to work; but you never can be entirely sure about a thing till you try it.

2. I don't see any reason why it might not work. No nectar coming into the rear hive, it might be necessary to supply water in one of the combs.

3. It would be likely to work all right if the rear hive were removed in about 3 or 4 days.

4. If I understand you correctly, the bees are not yet working in supers, and an empty super is to take the place of the front hive. Certainly that would not do for sections, for pollen would be put in them, if not brood. In any case the plan you propose would not prevent swarming.

5. If I remember rightly, no queen is to be found with the Davenport plan, so the Lyman plan can not be the same. I very much doubt if many would use the Davenport plan if it were published.

CLIPPING QUEENS—5-BAND OR GOLDEN BEES—WEIGHT OF COLONIES, ETC.

1. Are bees more likely to kill a queen after her wings have been clipped, if you have taken her in your fingers, than they are if you clip her wings without handling her?

2. Does it happen very often that the bees will kill a queen after being clipped in any way?

3. When you get a queen for the purpose of introducing, is it not a good plan to clip her wings before putting her into the hive?

4. Are 5-band or golden Italians just as likely to be good honey-gatherers as the 3-band?

5. How much should a colony of bees weigh, hive and all, at the time of packing for wintering on the summer stands, to be sure of plenty of stores for winter? Suppose the hive weighed 21 pounds without bees, honey or comb.

6. How much should the same colony weigh the next spring when pollen is first carried in, to be reasonably sure of its coming out strong?

7. Do bees get much pollen from the "sugar" or hard maple?

8. What color is it?

9. I use full sheets of foundation in my Danz. brood-frames without wiring. It gets a little wavy. Will it straighten down with the weight of the bees after it is in the hive?

10. Which, if any, of the following blossoms do bees get honey, or nectar, from: Chestnut, beech, birch, oak, sycamore, wild cherry, and strawberry? PENNSYLVANIA.

Answers.—1. Probably they are if there is anything about the scent of the fingers disagreeable to them. But I have held hundreds of queens in my fingers when clipping them, without any bad results.

2. I think not.

3. Yes; if there is any possible danger of the bees being unkind to the queen at the time of clipping, that danger would be obviated by caging her immediately after the clipping; and of course she is generally caged for introduction. A good rule as to the time of clipping is to clip a queen the first time you can conveniently, after you know she is laying.

4. There are some very good gatherers among the goldens, but take them as a whole the 3-banders probably excel.

5 and 6. It's a trifle dangerous to answer questions of this kind. A colony sometimes will go through the winter on a much lighter weight than others, when there's no apparent reason for the difference. If I give the lightest weight that will ever do, some one will let all his colonies go at that weight, and will lose most of them by starvation before spring. There may be a large quantity of pollen in a hive, which will be of value the following spring; but the extra weight of the pollen will not help any in wintering. Again, there is no small difference in locality and location. There is, also, a

American Bee Journal

difference in winters. If I must give an answer to your question, I would say that to go through the winter the weight should be not less than 45 pounds on the summer stands. But it would not be at all advisable to go into winter quarters on that basis. The wise thing is to have enough to last through the spring, and 55 or 60 pounds would be a better mark. That would likely allow it to weigh about 45 pounds at the beginning of spring pollen.

7. They do in this locality.

8. It might be called light yellowish with a tinge of green in it. Possibly more green than yellow.

9. It is not likely to straighten.

10. I think they gather from chestnut, wild cherry, and strawberry; I don't know about the rest.

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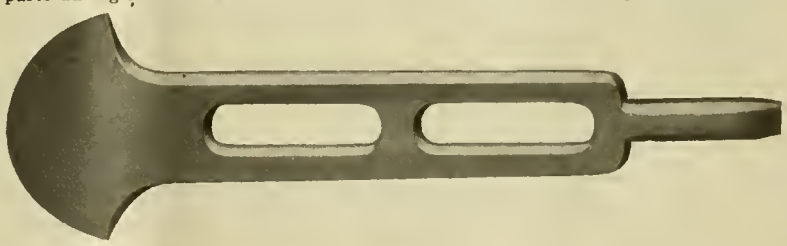

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1¾ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up supers, as it does not mar the wood.

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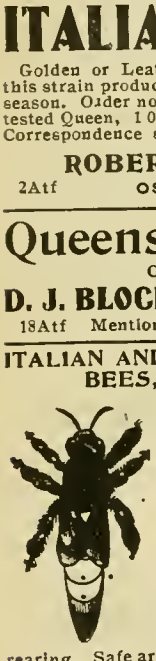

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Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00 one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear; payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

E. HAUNSCHILD, the Queen-Breeder,
20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

3-Frame Italian Nuclei

3-frame Nuclei of fine Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

Do You Like to be Stung?

What's the use wearing an old style net bee-veil that blows in your eyes, sticks to your face, and gives the bees a chance to hand you a hot one?

The Muth Ideal Bee-Veil
(75 cents, postpaid)

keeps the bees at at a distance because it is made of light indestructible wire and strong cloth. You can see through this wire as if it wasn't there; and you can smoke inside the veil all you want. It can't catch fire.

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If you buy the has-been kind of veils

You Certainly ARE "Stung!"

You get dollars of satisfaction out of it. No doubt about this—it's the best-ever veil on the market.

Better send for one to-day—don't be a drone.

We're big people in all bee-supplies—ask for catalog.

THE FRED W. MUTH CO.
The Busy Bee-Men,
51 Walnut Street, - CINCINNATI, OHIO

Mention Bee Journal when writing.

American Bee Journal

A GREAT IMPROVEMENT
Will be found in
—The—
American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
Dept. B. JAMESTOWN, N. Y.
[Established 25 years.]

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Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free.
Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, May 9.—Very little honey on the market of any kind. Prices are therefore nominal. A little choice white clover comb sold at 17c, and would bring that at present, but supply seems to be exhausted; even with this scarcity there is no demand for No. 2 grades. Extracted, white, 7@8c; amber, 6@7c. Beeswax in good demand at 32c. R. A. BURNETT & Co.

CINCINNATI, May 23.—There is no material change in the honey market at this writing. Extracted honey is not moving so rapidly as it could, owing to the cool weather. We quote amber in barrels at 5½@6½c; fancy table honey in crates of two 60-pound cans at 8@9c. For choice, yellow beeswax, free from dirt, we are paying 31c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, May 25.—The honey market has been quite brisk for this time of the year. The continued cold weather has made both the comb and extracted honey sell much higher than usual. A number of odd lots have been cleaned out of the market. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm at 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 21.—White comb honey is practically cleaned up, and there is very little demand at this time. There is some dark and mixed comb on the market, but no demand to speak of, and some of this will have to be carried over until next season, or sold at a sacrifice. Therefore we cannot encourage shipments of off grades or dark honey at this time. Extracted honey is in fair demand and prices are ruling firm. There is very little new crop arriving as yet from the South, and while it is rather early, we doubt whether we will have any large shipments from the Southern States this season, as we fear there will be a short crop, judging from the reports we are receiving. There is quite a good stock of last year's crop still on the market, sufficient to last until the new crop from various states arrives. There is no change in price as to extracted honey since our last. Beeswax firm and likely to remain so for the next 2 months.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, June 1.—The honey market is almost bare of comb honey, and demand good; receipts of extracted are light, and demand light; we quote: No. 1 white comb, 24-section cases, $3.25; No. 2, white and amber, $2.50@$2.75. Extracted, white, per pound, 8c; amber, 7@7½c. Beeswax, 30c, C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¼@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, May 21.—The market on fancy white comb honey is entirely bare. No. 2 is selling slowly at 12c. Extracted, light amber, brings 5½@6c. Beeswax is selling here at $35 per 100 pounds. C. H. W. WEBER.

FOR SALE

1000 sixty-pound CANS. A No. 1 condition, packed two in a case. Cases also first-class. Will sell them cheap.

Michigan White Clover Honey Co.
29 Woodbridge St., West,
24A4t DETROIT, MICH.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.
THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.
Mention Bee Journal when writing.

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
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Liberal Discounts to the Trade.

We will Buy and Sell
HONEY
of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.
We are always in the market for
Beeswax
at highest market prices.
Hildreth & Segelken
265 & 267 Greenwich Street
NEW YORK, N. Y.
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American Bee Journal

Marshfield Bee-Goods

talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville. Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S. S. O. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobeli, Glenwood.

47th Year June 20, 1907 Number 25

AMERICAN BEE JOURNAL

N. P. Anderson and Apiary, of Minneapolis, Minn.
(See page 534)

Apiary and House-Apiary of Herman Rauchfuss, of Denver, Colo.

THIRTY-TWO PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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Nothing less than ¼ inch accepted.

Time Discounts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
13 "	10 "	500 " ...	10 "
26 "	20 "	1000 " ...	20 "
52 "	30 "	2000 " ...	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

GEORGE W. YORK & CO.
118 W. Jackson Blvd., CHICAGO, ILL.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

HOW TO PAINT

Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. **"Everybody's Paint Book,"** written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do **their own painting.** It gives practical lessons in plain painting, **varnishing, polishing, staining, paper hanging, kalsomining, etc.**

It also tells how to **renovate furniture** and gives many hints on artistic work for **decorating a home.** Precise directions are given for mixing paints for all purposes.

If farming tools and farm vehicles are kept painted, they will last twice as long, and anybody can do the work with the aid of this book. It is handsomely and substantially bound in cloth. A copy will be sent postage prepaid on receipt of price, **$1.00**

SPECIAL OFFERS

For $1.60 we will send the above book and the Weekly American Bee Journal one year; or for $1.40 we will send the Paint book and a Standard-Bred Untested Italian Queen. Address

GEORGE W. YORK & CO., 118 W. Jackson Blvd., Chicago, Ill.

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$ 3.25	$ 6.00	$ .85	$ 4 50	$ 8 00	$ .95	$ 5.00	$ 8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5 50	9.50	1.20	6.00	10.00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.....$10.00
Select Golden Breeders 3.00
" 3-band " 3.00
" Carniolan " 3.10

Select Caucasian Breeders .....$ 3.25
1 full colony without queen in 8-frame dovetailed hive..... 6.00

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf JOHN M. DAVIS, Spring Hill, Tenn.

Please Mention the American Bee Journal when writing Advertisers

PURE ITALIAN BEES FOR SALE

Full colonies, in up-to-date hives; Nuclei and choice Queens.

Hershiser Wax-Press and other Lewis Bee-Supplies. Good Goods and Prompt Shipment.

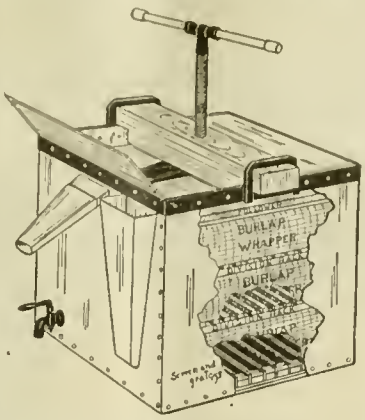
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.** Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

BEE-KEEPERS

Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

BEE AND POULTRY SUPPLIES

Bee-Hives, Honey-Boxes, Veils, Smokers, Incubators, Brooders, Egg-Food, etc. Everything needed for the "Busy Bee" and the "Industrious Hen." Prompt shipments.

LEWIS' FAMOUS BEE-WARE. LEE'S POPULAR PRODUCTS FOR POULTRY

Catalog for either, with instructions to beginners—Free.

29Atf **C. M. SCOTT CO. 1005 E. Wash. St., Indianapolis, Ind.**

QUEENS FOR YOU

Golden, Carniolan, Caucasian, and 3-band Italians—your choice. Prices: Untested, 75c; Tested, $1.00. Prices on large quantities or on Bees given on application. Address,

NEW CENTURY QUEEN-REARING CO.
JOHN W. PHARR, Prop., Berclair, Texas.
12Atf Please mention the Bee Journal.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.
Mention Bee Journal when writing.

For Sale

50 to 75 cases of two 5-gallon second-hand Cans each. Clean and in good shape. Enquire of C. BECKER, Pleasant Plains, Ill.
22A4t Please mention the Bee Journal.

Queen-Clipping Device Free!

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
[illegible] CHICAGO, ILL.

"If goods are wanted quick, send to Pouder." Established 1889

Full Value, and Then Some

By the Bee-Crank

It is the easiest thing in the world to make promises in an advertisement that it is impossible to fulfill. Indeed, the temptation to do so is so strong that it requires care to avoid it. I have always tried to lean toward moderation, rather than exaggeration.

Instead of complaints of scant treatment, I have received from my customers many letters like the following:

PERU, IND.
WALTER S. POUDER, Indianapolis, Ind.

Dear Sir:—In my capacity as distributing agent for your Bee-Supplies I have been mentally scanning the past. You have sent me **value received** for every dollar that I have ever sent you, and with each shipment some extras thrown in, in the form of promptness, accuracy, care in packing, and so forth. I sincerely thank you for your tokens of appreciation. You will please fill the following order. Very truly yours,

GEO. S. DEMUTH.

I would rather publish a statement of this kind from an unbiased customer, telling what treatment he had actually received than a dozen pages of promises.

Root's Goods at Root's Prices. I give you the advantage of freight-saving, prompt, careful service, and quick deliveries because of special shipping facilities that are equaled by few cities in the country outside of Indianapolis.

Send for my Catalog. It is full of illustrations and descriptions of devices that interest the bee-keeper.

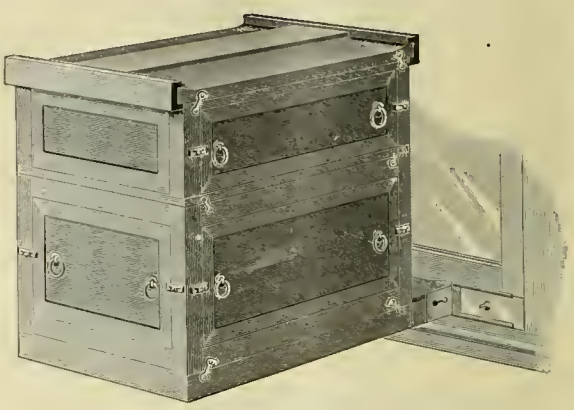
Beeswax Bought. Highest market prices paid. Send by freight or express according to size of package, and attach your name.

Walter S. Pouder 513-515 Massachusetts Avenue INDIANAPOLIS, INDIANA

Trade Notes
The A. I. Root Company, Medina, Ohio

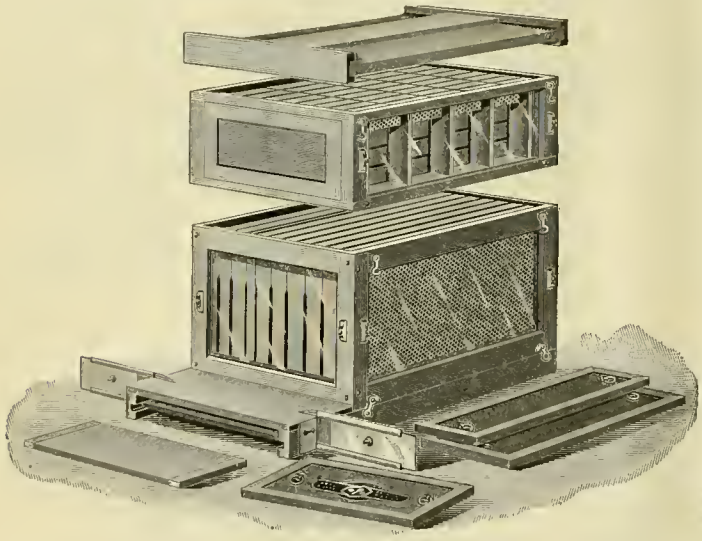
ROOT OBSERVATION HIVE

In recent years there has been an ever-increasing interest in bees as a subject for nature study in the schools, and a corresponding demand for observation hives to facilitate the study of bees at work, without exposing the student directly to them, as is necessary with ordinary hives. To meet this demand we offer several styles and sizes of observation hives. These are made with skeleton frame, with glass in sides and ends of the brood-chamber, and in sides only of the super. Shutters are provided to cover the glass. These shutters have brass rings to handle them by and brass buttons to hold them in place. Brass hooks are also provided to hold the several sections of the hive together. The hives are finished in the natural wood, oiled and varnished, and altogether they are very attractive in appearance. We furnish them regularly in 8-frame, Langstroth depth. The super is fitted for the 4x5x1⅜ plain section. Hives are usually furnished put together and finished. We can supply material in the flat, but it is work for a cabinet-maker who understands his business to put them up, and we do not care to furnish them in flat unless you order one complete as a model.



Observation Hive Inside a Room with Entrance under the Raised Sash.

The bottom is no longer than the hive, and a covered extension is provided to lead the bees out-doors under the window-sash or other opening provided. In the full-sized hive a colony of bees can be kept by a window the year round, or for only a part of the season, as may be desired. The work of the hive, including the building of comb in the sections, can be watched at intervals without opening the hive or disturbing the bees. For work in the school-room before a class we recommend the one-frame hive. With the one-frame observation hive it is necessary to remove the frame of bees and put in a fresh one about once a week at least, for the best results. As a rule, arrangements may be made with a local bee-keeper to provide a frame of bees each Monday morning, returning at end of week.



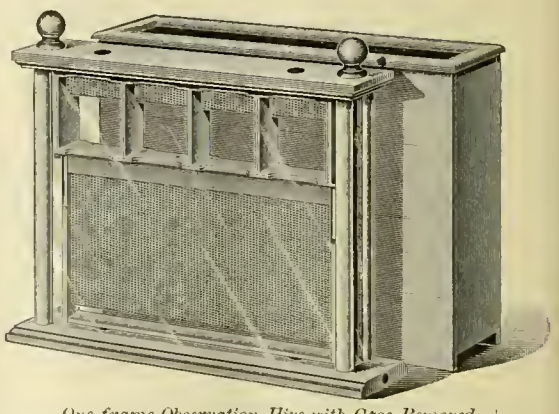
Observation Hive with Panels Removed.

We make one-frame observation hives for L. frames or for Danz. frames and a row of sections above, or the L. frame with a row of sections above. These are provided with a wood case to slip over to shut out the light when you are not watching the bees. We show this one-frame hive and the case in accompanying illustration. This consists of turned-wood corners with glass inserted in grooves in ends as well as the sides.

PRICE-LIST OF OBSERVATION HIVES

Observation Hive (8-frame), complete with super, including frames, sections, glass—and bees with queen	$15.00
Observation Hive (8-frame), complete with super, including frames, sections, glass—no bees	7.50
Observation Hive (8-frame), without frames	7.00
" Super " complete, with sections	2.50
" Hive " without super	5.00
" Brood-chamber, complete, with frames—no cover or bottom	3.75
Observation brood-chamber without frames	3.25
One-frame Observation Hive for Danz. frame, no super, with case	2.50
One-frame Observation Hive for Hoffman L. frames, no super, with case	2.50
One-frame Observation Hive for Danz. frames, with super, with case	3.00
One-frame Observation Hive for Hoffman L. frames, with super, with case	3.00

(For bees and queen in one-frame hive, add $3.00.)



One-frame Observation Hive with Case Removed.

THE A. I. ROOT CO., Medina, Ohio

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE 20, 1907 | Vol. XLVII—No. 25

Invention of Movable Frames

The editor of the Far-Western Bee-Keeper wields a facile pen, his matter and manner both good, but surely he must have been napping when he wrote: "Dzierzon was the man who first made bees build combs on slats, and starters, which was the beginning of the movable frame."

If credit is to be given for what was done previous to the invention of the movable frame by Langstroth in 1851, as "the beginning of the movable frame," why not go back to the "beginning" at an earlier date of combs built on slats? In Dadant's Langstroth, paragraph 282, occurs the following:

"The bee-keepers of Greece and of Candia seem to have been the first to provide their hives with movable bars, under which bees suspended their combs. Della Rocca mentions these, and gives some engravings of them in his work, published in 1790. In 1838, Dzierzon revived this hive and improved it."

Virgin Loafing on Her Wedding-Trip

The distance to which a virgin flies on her wedding-trip is a matter of practical importance, the question often being asked how far it is safe to be from other bees to make sure virgins shall not meet drones from them. It has been advanced that by noting the length of time a virgin is absent from the hive one can figure upon the distance she has flown. That this is not to be depended upon is shown by the following testimony from Thomas Johnson in the British Bee Journal:

In one case the queen, returning, missed the board and settled heavily on the brick wall, where she remained while I fetched a hand-magnifier from the house and examined her as she sat. Under the glass the drone-trail (a silvery-looking filament) could be plainly seen. The queen remained so long on the wall brushing herself that I began to think she was disabled, but on touching her she took wing, and, after taking one circling flight around the yard, she entered her own hive, and is now at the head of an excellent colony from which I hope to rear more queens this season.

This experience is, I think, valuable, because it is evidence that when a queen is absent on her mating-flight, it is by no means certain that she is on the wing the whole time. While the watching bee-man imagines her flying miles from home to consort with a favored drone from a distant apiary, she may be sitting preening her ruffled "feathers" within his reach, but unnoticed.

Bees and Colors

On another page in this number will be found an article of much interest discussing the color of flowers as related to bees, written by Prof. Gaston Bonnier. It was sent by Mr. Stadler Menhall, as a clipping from the New Orleans Times-Democrat, and was, no doubt, translated from the French. Prof. Bonnier stands high in the council of bee-keepers in France, and what he says is worth considering. He is not likely to antagonize the views of such an authority as Sir John Lubbock without thinking he has good ground for it.

The question whether bees go by sight or scent is an interesting one. When one observes the actions of would-be robber-bees in the apiary, they will be seen sneaking about cracks between hive and cover, where certainly they can see no honey inside, but no doubt can smell it. But watch closely at a hive where desperate attempts are being made to break through, and while most attention may be given to the cracks, one will often see a cluster of bees attacking a solid knot on the side of the hive. Sight, not scent, evidently in that case.

Look again at the bees upon the flowers. Here is a flower that has just been rifled of its sweets, and a bee comes along, looks it over, and quickly leaves it without getting anything from it. Was not the bee, in that case, attracted by sight? Or was there just enough nectar to attract by its odor, and not enough to be worth spending time upon it?

It is quite possible, indeed probable, that both sight and scent play a part, but the careful investigations of Prof. Bonnier seem to give to scent the chief part.

Metal Frame-Spacers

The chief objection urged against metal frame-spacers has been that they would injure the uncapping-knife. Producers of comb honey have protested that it was unfair to them, since their combs were never used for extracting, to deprive them of the advantages of metal spacers just because such spacers might be objectionable when extracting. Now comes Editor Root, who goes so far to think it possible that metal spacers may even be allowed on extracting-combs. He says (Gleanings, 754):

The oft-repeated objection to metal spacers, to the effect that they will interfere with the uncapping-knife, exists more in the imagination than in fact. There are not wanting extracted-honey men who use metal spacers of various sorts; and when we have talked with some of them on the question whether they dulled the uncapping-knife edge on these spacers, they ridiculed the very idea. One of them in particular made the remark that "any one who would dull his knife on a small projection at the end of the frame must be a blundering manipulator." Unless some one will actually testify that the metal spacers make uncapping difficult and annoying, let us scatter this man of straw to the four winds.

"Bees Exterminating Bugs"

C. G. Chevalier sends the following item with the above heading, clipped from the New York Herald:

Professor S. J. Hunter, of the Entomological Department of the [Kansas] State University, who, for the past month, has been collecting and sending free to the farmers of the Southwest, parasite bees to kill the green bugs that have been destroying wheat, received a telegram to-day from Secretary of Agriculture Wilson at Washington, asking for full particulars of this work.

Professor Hunter replied that he had distributed 2000 boxes containing the parasites

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to Kansas farmers with uniform good results, but that a larger fund was needed to make the work comprehensive and decisive. Reports from Texas and Oklahoma are that the bees have practically exterminated all the bugs in those States.

The likelihood is that the item is substantially correct, only the reporter in the case is not an entomological expert. It is not likely that any bee is a parasite, neither is there any parasite in the case. Put "lady-bug" for "parasite bee," and the story is probably all right. It is well known that the larva of the lady-bug is quite fond of green lice.

Taking Surplus in Olden Times

Dr. Follenius says in Prak. Wegweiser that the introduction of movable combs was the beginning of taking surplus honey in the fall instead of in the following spring. However, that may have been in Germany, was it not the custom in this country to "take up" in the fall, before movable frames were known? The heaviest and the lightest colonies underwent the brimstone ordeal; the heaviest because they had the most honey, and the lightest because they were not likely to survive the winter.

An Average Honey Crop is now promised for the orange-growing district in Southern California. Mr. John Stewart, of San Bernardino county, sent us the following item taken from the Los Angeles Times of June 5:

The honey crop, which is now being gathered, is proving that this is an average season for apiarists, although many cloudy days have decreased the yield of nectar. There are a number of apiaries in the vicinity of Redlands, and these first June days are busy ones for the bee-men.

The season promises to be an average one notwithstanding the cold, wet winter. The fogs are as bad for the bees as rains, for the insects will not work in the fog except in rare cases.

The black sage of the canyons has been the source of most of the honey gathered in the past few weeks. This flower produces the clearest and most delicious honey, which brings the highest price. Next comes the white sage, which makes just as good and nutritious an article, but not quite so white.

The "Muth Ideal Bee-Veil" appears again this week on page 558. It is put out by The Fred W. Muth Co., of Cincinnati, Ohio. The illustration shows the veil so well that a description is hardly necessary. We may say, however, that the center part is made of very light wire-cloth, which is far ahead of the common limp cotton or silk netting which is so often blown against the face so that the bees can easily get at you. This Muth veil is very cool and pleasant to wear. We bespeak for it a large demand among bee-keepers.

A "Pancake Turner" Comb Leveler.—We have received the following:

Herewith I send a crude drawing of a little affair that I think is the best comb leveler that I know of. I have used such as have been advertised, but do not think them as good for the purpose as this. I discovered this by experimenting.

Get a common pancake-turner, cut the sides on a slant back to the handle, and round the end of the blade slightly. This can all be done with a pair of tinner's shears. Turn it upside down so as to make a smooth surface on the underside, grind the upper edge to a bevel, and file fine, sharp teeth in it, and the thing is ready for use.

After taking the section in hand place the leveler in the bee-way space and vibrate it from side to side. It will cut as neatly as the reaper sickle does grain.

I send in a separate package some of the clippings which will give an idea of the work it does. I have used this for the last 2 years, and am well pleased with it.

Some time during last year I sent a drawing to the A. I. Root Co., and they seemed to think it very good. I shall prosecute no one for infringing upon my rights, if he should think enough of it to try it.

My bees are doing splendidly in the way of brood-rearing just now; in fact, many of them are very strong. I have sold 2 colonies for $10 each. WM. M. WHITNEY.

Walworth Co., Wis., May 29.

This differs from the Taylor handy comb-leveler in that it allows one to cut down objectionable surface of the comb wherever it may be, without cutting down the whole surface to the same level. Also, the whole work is in sight, allowing one to know just how deep he is cutting.

The Apiary of N. P. Anderson—We have received the following from Mr. Anderson in reference to his apiary, which is shown on the first page:

The picture of my apiary was taken during the fall of 1906. It contained at that time 36 colonies, having increased from 15, spring count. A part of the colonies were worked for comb honey, some for queen-rearing, and most of them for increase.

The honey crop of 1906 was very light, and here in Minneapolis it closed with the basswood, while a few miles from here, in the country, the bees worked on white clover for 10 days after the basswood ceased; this made my honey-flow very short, and left many unfinished sections; but those will come handy as bait for this year. N. P. ANDERSON.

Amount of Honey Per Acre.—Charles O. Bergstrand, of Amery, Wis., wrote us as follows on June 10:

EDITOR YORK:—To-day I received a copy of The Farmer—a Minnesota farm paper said to have 115,000 readers—which contained the following clipping, which I take the liberty to submit. I think it is stretched a little, otherwise the climate around Preston, Minn., must be more suited for bees than anywhere else that I have heard of. Here is what Mr. M. V. Facey says in The Farmer:

"It is not possible to estimate accurately the amount of income to be derived from the honey-resources of the farm, but it is certainly much greater than our most extravagant estimates. In proof of this I will present a few facts as they have come up in my experience.

"First example is a field of buckwheat of only 5¼ acres, to which a yard of 30 colonies of bees had access. No other buckwheat was near, and the bees most clearly devoted their whole attention to the only available field. It was very much alive each forenoon, and the bees gathered between 750 and 800 pounds per acre therefrom, or an income from honey alone of over $40 per acre. Wild buckwheat will often do as well.

"It has been estimated that a large, thrifty, well-flowered basswood will fully supply a colony during its flow, and I do not think the estimate is out of the way. When clover is secreting nectar, a field of 15 or 20 acres of thick white or alsike clover will keep a good-sized apiary going."

I will be listening with upstretched ears to hear what our "Afterthinker" thinks about the Minnesota climate. I think even Mr. Alexander, of New York, will think, and even say, "That was a bumper report."

The weather here has changed to the better—warm, nice weather all last week. We had a warm, nice rain yesterday and to-day.

CHAS. O. BERGSTRAND.

As Mr. Facey is a reader of the American Bee Journal, we would be pleased to have him to tell us more about the report he sent to The Farmer. Just what an acre of bloom can be depended upon to yield in the shape of honey is an interesting problem. It comes up for solution quite frequently. Perhaps Mr. Facey has the right answer.

The Song of Songs

Poets write of honeysuckles, roses red and lilies white,
Of forget-me-nots and bluebells, and of daises fair to see;
But of all the flowers in all the world in which men take delight,
The basswood and white clover are the sweetest far to me.

Artists paint the towering mountains with their frozen caps of snow;
Picture mighty icebergs floating in the heaving Arctic Sea;
But I love the springtime picture when the earth is all aglow,
And the air is filled with fragrance of the blooming apple-tree.

People rave of song of nightingale, of bobolink and wren,
Of the oriole and robin nesting in the shady tree;
But the song of songs—the melody excelling birds and men—
Is the song of the home-coming, nectar-laden honey-bee. C. H. BENSON.

Bellevue, Mich.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address office of the American Bee Journal.

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Conducted by J. L. Byer, Mount Joy, Ont.

Queens in Supers

One of the things I could never understand, is *why* Mr. Dadant's queens do not go into the supers where no excluders are used. Is it locality, race of bees, or what? Certainly it is not size of hive, as the hive I use is considerably larger than that used by Mr. Dadant, yet the queens will go into the supers every time where no excluders are used. As intimated, the majority of my bees require supers at once, and on Friday, May 24, the weather having moderated a little, a super of brood-combs was put on each of 4 very strong colonies at the home yard. No excluders were put on, as I wished the queen to occupy these combs so that they could be used for nuclei later on in the season. Friday night the weather turned cold, and remained so till Wednesday evening; yet on examining these supers on Wednesday—more out of curiosity than anything else—sure enough, the queens had established a brood-nest already in the upper stories, one colony having 3 combs (Quinby dimensions) nearly full of eggs.

A Backward Season, Spring Dwindling, Etc.

Friend Byer:—As the season advances (backward) in this locality, prospects do not look at all promising. The bees are doing just a little better than holding their own. I am consoling myself, however, that it will not be necessary for me to buy a gasoline engine to turn my extractor this season.

Feeding for Spring Dwindling.

I had a little experience with a case of spring dwindling a short time ago. The bees from several of my strongest colonies were crawling in great numbers through the grass. I picked up a few of them and found they were filled almost to bursting with pollen. I examined these hives and found them nearly bare of honey. When I commenced feeding, the "dwindling" disappeared. I suppose the bees were trying to eke out a living on pollen. Evidently bees "can not live by (bee)-bread alone."

Bees Moving Eggs or Larvæ

I believe I had an example last season of bees moving eggs or larvæ. A colony with an extracting super over an excluder swarmed. I hived the swarm on the old stand, and during the operation I happened to lift a frame out of the extracting super where I found 2 fine queen-cells. There was not another cell of brood in that super, nor had there been. The combs were built in the super from foundation, and were perfectly white, except for those queen-cells. Did the queen squeeze through the excluder just to lay 2 eggs, and then return to the brood-nest?

Careless Bee-Keepers.

I think fully 75 percent of the bees of this locality are dead, and the most of them went under this spring. I pity the bees, but have mighty little sympathy for the bee-keepers (?) who allow their bees to die from neglect. I tell you, Mr. Byer, we can work to get laws to suppress foul brood, but when we get laws to deal with careless, heartless bee-keepers, and weed them out of the business, foul brood inspectors will be a thing of the past. However, a poor season followed by a hard winter probably does the "weeding" far better than any law.

I hope you will have a prosperous season, and that the present prospects are not telling the truth for the bee-keepers of Ontario in general.

H. A. Smith.

Palermo, Ont., May 27.

Yes, the season is certainly a record-breaker. As I write (June 1st), we have a fire going in the house as though it were March instead of June. Apple-blossoms are not open yet, and clover is correspondingly late. Yet, for all the bad weather, bees that wintered well have more than held their own. The majority of my colonies are as strong as usual at this time of the year. In fact, I hardly know what to do with them in order to keep back swarming.

The weather has been so steady cold that we have had only a few days fit to open hives. I hesitated to unpack the hives, and now find about one-fourth of the colonies have queen-cells started.

The case you mention would seem to prove beyond a doubt that bees do move eggs and larvæ. Personally, I have been convinced for some time that such a feat was quite possible.

As to pollen injuring the bees, after thoroughly examining the combs of honey left in hives where our bees died from dysentery last winter, I feel pretty sure that too much pollen was the cause of the loss, and that the small quantity of honey-dew present in the hives was only a minor factor in the business. All during the clover flow last season the majority of the bees coming in would have pollen, and although the most of this pollen was sealed over, yet with an exceptionally steady winter, and the absence of a suitable day for a cleansing flight, the excess of pollen brought on dysentery early in February. Most of the colonies that perished left from 20 to 30 pounds of stores in the hives, and when a portion of the comb is uncapped the majority of the cells have pollen in the bottom.

Please Mention Bee Journal when writing advertisers.

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Cheap, Suitable Bee-Veils

There are many kinds of veils, and one is apt to find this out if he travels and visits among bee-keepers. But there are good veils and bad ones. A crude veil, much used, is that made of wire-screen cloth, generally fastened to the edge of the rim of an old hat. To the lower edge of the wire-cloth is sewed a width of cloth which falls over the shoulders and is fastened so the bees can not get in. For me, such a head-gear has its faults. First, it is rather bulky or heavy; it is warmer than some of the other veils, and the screen-wire hurts the eyesight to a great extent. It is also quite cumbersome to take along from place to place.

I should prefer something that can be folded up and carried in the pocket, like the silk and cotton tulle veils generally listed in the catalogs. These I have used for years, after trying many kinds. There is an objection to the material these veils are made of, however. The all-silk veil is rather more expensive, and soon wears out. Those made of cotton tulle obstruct the vision too much on account of the heavier material. To remedy this, cotton tulle veils are made with a silk face, a

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square piece of silk tulle being sewed in the veil so it will come in front of the wearer's face when worn. This is the kind I have used most, but the silk facing is not desirable enough, and soon wears out, like that of the all-silk veils.

Needing a number of new veils this season, I looked around for some material that would be better suited for the purpose than the cotton tulle especially made for bee-veils—something that would not interfere with the vision as much—and it had to be stronger than the silk veiling.

The only thing "on the market" was different grades of bobbinet, commonly used for "mosquito-bars," but this material was "all white." The prices ranged from 20 cents to 30 cents per yard, the material being over 2 yards wide. The 20 cent material gave me enough for 3 large veils for 30 cents, or 1½ yards. This made the veils long enough to come well down over the shoulders, which most of the finished veils do not do.

Five cents worth of black diamond dye made this white material as nice for bee-veils as could be desired. After coming out of the dye the piece of bobbinet, still uncut, is stretched to dry. This leaves the meshes large and open, and the threads of the material well stretched, making the finished veil much more open to the eyesight and cooler than the regular black cotton tulle, more durable, and very much less expensive than the silk veils.

A plain white cord is sewed in large stitches in the end that comes over the hat, and serves as a draw-string, tied in a bow-knot to adjust to different sizes. A rubber-cord or elastic may be used, but it wears out. Nothing is done with the lower edge, which falls over the shoulders and is pinned down to the front of the shirt with a large safety-pin. My aim is to make these veils "good enough," and as cheap as possible, and I think I have accomplished this, as 35 cents worth of material and a little sewing for 3 veils—a dozen cost just $1.40, and a little more sewing.

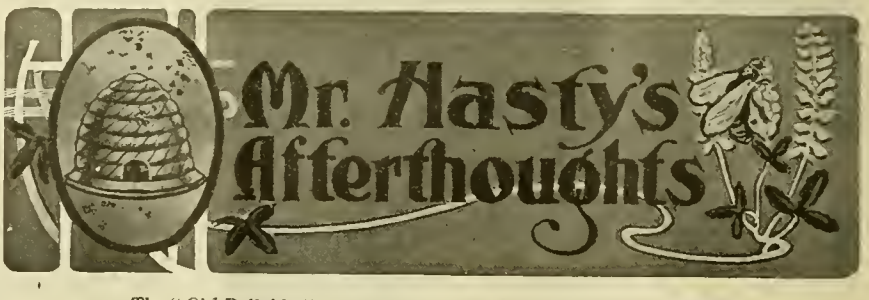
Shallow Hives

The plain, sensible way in which Mr. Scholl has recently discussed the shallow hive, its advantages, etc., makes one almost wish he had his bees *all* in shallow hives. But the very thought of having so many of these little shallow hives and frames to put up and handle for extracted honey, to be the equal of say one 3-story Langstroth hive—well, what would we have to do to rig up an apiary of say 100 hives of this class? Oh, I don't know; it fairly staggers me to think of it, Mr. Scholl.

With no desire to get up a hive discussion with any one, I would say to the average beginner to go slow on changing from the Langstroth hives to the shallow hives. They are all right perhaps for the expert bee-keeper, but for the novice I would say, try only a few, and then they will be used only as supers on the standard hives with 9 out of 10 in less than 5 years.

It has been said by some writers that they never knew any one that gave the shallow hive a thorough trial that ever went back to the Langstroth hive. Let me say to that writer, that I do not know what *all* the bee-keepers have done, but I do know of a number that have given up the shallow hive in disgust, and W. Z. Hutchinson is one of them. I could give the name of others if it were necessary. L. B. Smith.

Rescue, Tex.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

That French Record of Swarms.

Like the proverbial dog barking at a squirrel-hole, I incline to return to that French record of swarms. It is of use to us to fix the degree of temperature below which we need expect only occasional swarms. They fix it at 68 degrees. Only 11 percent swarmed when it was cooler than that. Their bees are more accustomed to temperature below 68 degrees than ours are; so we are not likely to have more than 11 percent below that figure. I have no records of temperature with which to compare.

They never could catch a swarm coming out when it rained. Same here. In my total experience of some 3000 swarms, I have had just one that got on the wing *just before* a misty, fine rain began, in which water fell quite fast. It was interesting to see that they paid no attention to the rain—or next to none—took their own time to cluster.

Another thing is the same here: Wind has a very repressive influence, although not entirely prohibitory like rain and cold. Their finding is that only 18 percent swarm when it is windy. Don't believe the figure would be quite as high as 18 at my yard; but of that I'm not sure. Manifestly the figures of this point don't depend wholly upon the bees, nor yet on the continent and nation. At a yard so blest as to have no winds in swarming-time, the percentage would necessarily be 0. And the yard with stiff breezes every day would have a percentage of 100.

I do not agree with Mr. Getaz that they vitiated their barometer observations by not observing the other points of the weather in the same connection. Something still left. Useful to us to be able to say in the morning: "Barometer high; this will be a swarmy day—other things being equal; or, "Barometer low; this is likely to be a non-swarmy day, as compared with other similar days." Page 391.

Some Things that Influence Swarming.

Sunshine, cloud and shade are three words to conjure with, and so they proceed to conjure with them. Just to say things off-hand without records, I should say sunshine is decidedly promotive of swarming, and cloud somewhat repressive, *but only slightly so if the temperature is high.* As to the shade of trees, I think the total number of swarms is decreased but little by it—such shade merely making the swarms a little later in the month and a little later in the day. Still a possibility that I'm wrong in that, however.

Very likely, as Mr. Getaz suggests, young queens in France would show a less swarmy record were it not that their hives are generally very small. But still, I shouldn't wonder if our folks have been overrating quite a bit the repressive influence of a young queen. Some *almost* want to say that colonies with a young queen never swarm. Here's a good point for our boys experimentally inclined to strike in at—and find out just how it is at our house.

I should call the dictum of Mr. Thibault, that no colony swarms when there are no drones—I should call that a pretty good-sized mistake. Successfully exterminate, and keep exterminated, all the drones of a colony and it would be more likely to swarm than if left alone—if you let me judge. That the colony that doesn't try to rear drones will not swarm—I guess that's probably so. Also another thing may be so: If a colony's own drones are all exterminated, some may come in from other quarters. Of 10 such colonies suppose you find 5 with quite a sprinkle of immigrant drones and 5 with none. The 5 that immigrant drones find it pleasant to stay in are the ones that are intending to swarm, I guess. Or is this getting too far into the domains of the fanciful?

They found that 30 percent refrained from swarming from hives with about the capacity of a cubic foot, and 70 percent from hives with a capacity of 2 cubic feet. Just about what we would expect over this side—but swarmy locations worse, and some locations better. Page 391.

Breeding Non-Swarming Bees.

That some colonies swarm themselves into tribes in the course of the years, and some other colonies disappear, progeny and all—that's one of the least thrashed out. Perfectly cor-

[Continued on page 553]

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Nucleus Method of Increase

BY G. M. DOOLITTLE

A correspondent wishes me to give him a plan in the American Bee Journal whereby he can increase his 4 or 5 colonies to as many as possible for wintering the coming fall. Well, here is the way I have done something of the kind in bygone years, when I was anxious to increase a few colonies to as many as could well be done:

I first get out boxes of suitable sizes, according to the size of the colonies I wish to make, holding from one pound of bees up to 6 or 8, the latter being a very large swarm. For ordinary nuclei nothing is better than a 20-section shipping-case nailed up, and leaving off the side strips that hold the glass. On one side of it, where the glass would go, I permanently nail on a piece of wire-cloth, and for the other side nail a piece of wire-cloth the same size as the first, to 4 strips of suitable length, so these strips surround the wire-cloth as a slate-frame does a slate.

Now, with 4 small wire nails (one in the middle of each strip) I tack this wire-cloth frame to the opposite side of the box, when I have what I term a "nucleus-box," one side of which can be removed at any time with the blade of my jack-knife. I next had a tinsmith make me a very large funnel, 18 inches across the top, with the usual slope of side, coming down to a 2½-inch upright, or outlet, which was about 2½ inches long. Having the funnel made I pressed the top together from opposite directions till I had it oval at the top about one foot wide and 22 inches long, in the diameter of the two ways across the top. It was fixed thus so as to collect in the bees better, when they were shaken from the frame, than would be done if left in the ordinary shape.

I then bored a hole in the top of the nucleus-box, which would just let the small or upright end of the funnel into it, and over this hole I fixed a slide to cover it when the bees were in and the funnel out. In one end of the box is fastened a section of honey, of those that were not quite salable and left over from the year before, the same being held in place by a screw going through the end of the case and screwing into the section. This is for feed for the bees should they be kept in the box longer than the honey they take with them lasts, as is quite often the case. This completes the box and funnel part.

I now boomed ahead as fast as possible the colonies I wished to increase, by using any of the plans given in the books for keeping them warm, stimulating, etc., and as soon as one became strong enough I prepared it for queen-rearing, as I have given in the bee-papers and in "Scientific Queen-Rearing," continuing to rear queens from this colony as was required; for queens can be so reared and not hinder the colony from contributing its share of bees for increase as well as the others, as the queen is laying all the time in it. This gets us along much faster than where a colony is to be made queenless to provide queens, as is advised by most of the other plans of rapid increase. With this plan no colony is made queenless at all, but all queens are kept laying at their best all the time.

As soon as any of the colonies are full of bees so they can spare bees from 2 frames, or from half a pound to a pound, and there are ripe queen-cells, take the cells out and put them in the queen-nursery to hatch. As soon as the queens are one or two days old, go to the hives which can spare bees, take from each 2 frames, being sure the queen is not on either of them, and shake the bees from them down through the funnel into the box, doing this at about 10 a.m. Having the bees in the boxes, set them in the cellar or in some shady place where outside bees can not get at the bees which are confined, leaving them till about 5 p.m.

Now get a virgin queen for each box, putting each in a cage having a stopper in it filled with queen-candy, so that it will take the bees about half a day to eat out the candy and liberate her. Take these queens to the boxes of bees, picking each up in turn and suddenly setting it down, when all of the bees will fall to the bottom, when the funnel-hole is quickly opened, the caged queen put down through it, and the cage secured by means of a bent wire clamped between the slide covering the hole and the top to the box. Then close the hole, the cage hanging about one inch below the under side of the top to the box, so the bees can cluster all about it while they are hanging in a cluster, as they soon will be.

After the queens are all in the boxes in this way, they are to be set away where they can remain undisturbed till near sundown of the next day but one, or allowing the queen and bees to remain a little more than 2 days in the box, when the bees are found all contented with their new queen, and hanging to the top of the box like a swarm.

I now go to the hives that can spare it and take as many frames having a small amount of brood in them as I have boxes of bees, shaking all the bees off from each and replacing with a frame of empty comb. Put one of these frames in a hive where you wish your new colony to stand, together with a frame of honey, or enough in it to secure the bees from starvation, and another frame of empty comb, placing the one having brood in it in the center. Having each hive thus fixed, the bees from one of the boxes are to be put in each. To do this, lower the box down into the hive near the outside comb, and with a knife pry the wire-cloth frame off enough so the bees can run out freely on the combs, when the hives are to be closed and the entrance adjusted to suit the size of the little colonies.

When the full colonies are strong enough to take more bees from them, get the boxes, now free from bees, fixing them and proceeding as before. As the season advances one little colony can be formed from each decent colony twice a week, the colony furnishing the queen-cells being equal to any of them in this regard. If you do not have the combs, frames filled with comb foundation will have to be used; but in this case your progress must necessarily be considerably slower.

When the honey harvest arrives, keep plenty of combs on the strongest colonies, so that plenty of honey can be stored in these for winter, and as the season advances use more bees each time in making the colonies; and when fall arrives, if you do not have all the colonies you desire, and you have plenty of combs of sealed honey for stores which you can use, take bees from several hives, thus forming a strong colony at once, and hive them on these frames of sealed stores. I have so formed colonies in September many times, and had them prove the best of any the next season.

With plenty of combs at one's command, 10 colonies in the spring can easily be increased to 100 in the fall by this plan without feeding, or any outlay in cash for queens or feed or anything of the kind, and if the season is really a good one some surplus can be secured besides. But the success of the plan lies very largely in not commencing operations until the colonies are strong, nearly enough so as to swarm, and then not robbing them of bees till they are too weak to work to the best advantage, using few bees for each little colony in June, and more and more as you go along, thus having all come up to full colonies in August and September.

Half a dozen nucleus-boxes and a funnel have become a part of my outfit in bee-keeping, and I use them much more often than any one would think, for with them I can handle bees almost as well as could be done with potatoes; and they will stay where put, when this plan is used, almost as well as would the potatoes. With almost all the other plans of making colonies or nuclei, the great trouble is, that so many bees return to the parent colony that the nuclei or small colonies are so weak as to be of little value, even if the return is not so great that they are absolutely worthless.

Borodino, N. Y.

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American Bee Journal

Spring Feeding of Bees

BY EDWIN BEVINS

I have read with considerable interest the articles by Mr. Scholl and Mr. Dadant, relating to the spring feeding of bees and the best kind of feeders to use at that season of the year. Mr. Scholl's arrangement has advantages over the other feeders mentioned by him, but my objection to it is that, like the others, it takes the bees too far from the brood-nest. This may not be true to any great extent of the division-board feeder, but I object to its use for the same reasons as given by Mr. Scholl. I want a feeder which can be placed right over the cluster of bees, which, in spring, is right on the brood; I want no space but a bee-space between the tops of the frames and the bottom of the feeder; and I do not want any bees to be made to crawl up the outsides of any feeder in order to get feed from its open top.

There is no feeder so satisfactory to me as a modified Hill feeder. The make-shifts for the Hill feeder, mentioned by Mr. Dadant, will not do at all for the man who has many colonies to feed, as they take up so much time in preparation for use. The quart Hill feeder is the one I have been using, but I object to it on account of its depth, which prevents packing around and over it sufficiently close to prevent escape of heat from the brood-chamber.

A feeder, with recessed and perforated cover, half the depth and with greater diameter than the Hill feeder, is all right. Where to get the ready-made shallow atmospheric feeder does not yet appear. Not every tinner has the machinery to form the cover out of a solid piece of tin. Any tinner could cut the regular sizes of the Hill feeders down one-half too small in capacity. I want a feeder to hold not less than one quart, and incidentally I will say that I use no Hill feeder without enlarging a few of the perforations with the point of a wire-nail. This, perhaps, is not necessary where feeders are new, but with long use it will be found an advantage. Probably in order to get the required form of the Hill feeder, I shall have to get my supply dealer to order some from the factory where the Hill feeders are made.

The use of the Hill feeder in its present form has enabled me to feed 100 colonies of bees since the middle of March more satisfactorily, I believe, than I could have done it with any other feeder, but a shallower Hill feeder would have saved me some work, and, I think, have been better for the bees, because I could have made the packing a little tighter above them in many instances.

Mr. Dadant's caution about using rusty feeders may be all right for those who feed when the weather is so cold that the bees will not take down the feed without leaving them on for several days. I have fed in rusty feeders many times in the fall, and have never had a case of dysentery amongst my bees. If the feed is given warm, and the quilt and cushion are tucked down closely around and over the feeder, the feed is always taken within a few hours after giving, if the perforations are all clear. Sometimes a large number of them get clogged, and hence the use of the hammer and wire-nail.

I will add here what may be a benefit to some. I put supers of varying depths on all of my hives in October. These supers are sometimes the ones used for 4¼ sections, sometimes half-depth extracting supers, and sometimes full-depth hive-bodies.

I will also add, though not pertinent to the subject, that I place 2 corn-cobs about an inch apart across the top-bars of every hive. Over these, and covering the whole surface of the frames inside of the super, is placed a piece of heavy burlap, and above this is placed a gunny-sack, or any sack made of cheap material, partly filled with chaff from the straw-pile after the thrashing is done.

When I wish to give feed in an atmospheric feeder, all I have to do is to raise the back end of the cushion and the piece of burlap below with one hand, and shove in the feeder with the other. It is done so quickly that the bees do not realize what is going on until all is over.

In the deep supers the feeders can be covered very well to prevent the escape of heat, but not so satisfactorily in the comb-honey supers; hence I devised a shallower feeder that can be packed around and above easily in any super, and does not call for very much movement among the bees in order to obtain the feed.

At this writing (June 6) the winter packing around my hives has not been removed, and will not be until weather conditions are less provocative of swear words. These conditions have prevailed here most of the time since April 1st. The supers with chaff cushions will be left on every hive as long as feeding is necessary. With frequent rains and warmer weather I think there will be some kind of a flow from white clover in the not distant future. In the meantime there will have to be quite a liberal "flow" of granulated sugar and water, half and half. My colonies now are not in very bad condition to take care of a honey-flow.

Leon, Iowa.

The Bee's Antennae—Pollen Color

BY PROF. A. J. COOK

Mr. B., of Delaware, Ohio, asks me to explain in the American Bee Journal how the bee finds the nectar in the flowers, or how it is guided in its search for what it desires. Of course, the bee has eyes, and very remarkable ones. All insects have the large compound eyes, which are made up of thousands of simple eyes in many cases. Each of these simple eyes is quite complex, being made up of several parts, much as we find them in our own eyes. They often have three simple eyes—or ocelli, as they are called—which are well marked in all bees. Thus we would expect that bees would see well, and would use these eyes in their quest for nectar, pollen, and whatever they seek as they leave their hives. We have reason to believe, however, that bees are not so much guided by vision as we should expect. We know when we move the hives slightly how the bees will come down to the old place for days. They seem to be guided by sense of direction, or habit, and not by direct vision.

I have another case that seems to show that their vision, rather than sense of direction, guides in some cases, but that it is often at fault. I once lived in a house exactly like my neighbor's, though the trees surrounding each were quite different. When I would put honey on my back porch for the bees my neighbor was annoyed by swarms of bees on his similar and similarly placed back porch. The bees were obviously fooled, and returned to the wrong house. Our company, and that of our neighbor, often made the same mistake.

I have no doubt but bees see well, and use their eyes to their great advantage, yet in the hive where they do much work they can not be thus guided, as the interior of the hive is totally dark. I much doubt, however, if bees do use the sense much in the quest for nectar of flowers or other sweets.

Many insects like bees, ants, wasps, moths, etc., have very delicately sensitive organs of smell. The scent organs are the antennæ. Wherever we find the antennæ—the horn-like organs appended to the head—well developed, we may be sure that the sense of smell is pronounced. Male moths, drone and worker bees, many beetles and ants, have such antennæ. In all such cases we may be sure that the insects have need in their functional activities to detect odors, that it may be, in some cases, are entirely unperceived by us. We have one large silk-moth here, that when a female comes forth from her cocoon, though the room may be closed all but a slight lift of one window, males often enter to the number of 50 or 100. I have known of just such curious entrances to rooms twice in my life. I have known of one case where a swarm of the male moths were flying outside about the closed windows of a room, when, upon examination, it was found that a female had emerged from the cocoon inside. It is authentically reported that in one case males of these moths came down a chimney through a stove, and into the room from a stove-damper, when a female had just come forth from its cocoon in the room. If we approach close to these moths we smell the peculiar odor, but we must get close. Think how wonderfully sensitive the nose (?) of the male moths must be to detect this outside the room with all the windows closed!

Here in California we often note a butterfly—Pyrameis cardui, or the thistle butterfly—going by countless thousands in one direction. This migration often lasts for hours, or even for days. In some cases we find that they are going against the wind. The explanation is not far to seek. There are, without doubt, a thicket of thistles, their food-plant, in some distant neighborhood. The faint odor of the plants, which we do not detect at all, is perceived by the butterflies, and they are impelled by a marvelous instinct to seek the plants on which to lay their

eggs, and so their young—the prospective caterpillars—which they will never see, may have a comfortable larder.

The queen-bee flies out to mate. It is well that she be not away long. The drones have a marvelous development of the olfactory sense, and so are able to find the queen very quickly. We all know how quickly the queen mates, and how short the time after she goes forth when she returns bearing the signs of having met the drone. In the case of bees, the drone has much the best antennal development of all the bees, though the workers are not poor in this peculiarity.

Now I think we know how the bees find the nectar. The nectar has a very attractive perfume. We have smelt it here about the splendid orange orchards which have made all outdoors deliciously fragrant the past few weeks. The worker-bees perceive this odor, and so hie themselves to the fields that they may gather the tiny nectar-drop which they transform to honey.

Our answer then to B. is, that bees are guided to the harvest by odor mainly, and find some aid doubtless by sight. It is probable that sense of direction is no small aid to them in returning to their homes after procuring their load of nectar.

A word as to the structure of this smelling apparatus! It consists of very numerous microscopic pits, each with a peg at its bottom. Both pit and peg are surfaced with a delicate membrane. The more sensitive the sense of smell the more of these pits and pegs. Of course, it is necessary that the antennæ should be kept clean. Bees will, of necessity, get the antennæ dusted with pollen. Ants and wasps will get the dust of the earth on their organs of smell. The antennæ-cleaners on the front legs of all hymenopterous insects are admirably adapted for this purpose. I know of nothing neater or more admirable in the whole round of animal anatomy than these antennæ-cleaners. At some future time I will explain how they work.

COLOR OF POLLEN.

While most pollen is yellow, yet it is interesting to note the variety of colors that we see by watching the bees. We see yeliow, orange, brown, black, white, red, green, and even blue.

Claremont, Calif., May 10.

The Pearl Agnes Bee-Hive

BY PROF. EDWARD F. BIGELOW.

The Pearl Agnes hive was designed by me in 1905 and placed on the market.

The body of the hive has five frames with a total comb capacity of five-sixths of two full-sized Hoffman frames—that is, each is exactly one-third that of a full frame (16⅞×8 inches interior). The frame itself has somewhat the appearance of a large section 5⅜×8 inches. It is supplied with full comb foundation, or with a starter across the end as may be desired. The length (8 inches) of these small sections is the same as the depth of the interior of a Hoffman frame, and the depth (5⅜ inches) is one-third the length of the Hoffman, so that three may be fitted into the length of a Hoffman, if placed side by side and on end.

The super is fitted with sections 2¼ inches deep by 2 inches wide—that is, one-fourth the size of the Danzenbaker 4×5 section, and hence it may be used, if desired, in the regular Danzenbaker super as "toy" or "sample" sections (Fig. 2). These little sections, when filled either in the Pearl Agnes hive or the regular full-sized super, are convenient, dainty, attractive, and, to the young folks, "just too cunning for anything." They may be used as sale samples, or novelties for the table, or as gifts to friends and to visitors at the apiary. The fences of the super are in the same form, but of smaller size than the regular fences. The cover is shaped like a gable and roof, so that, together with the fanciful painting of the three parts in three different colors, the whole has the appearance of a doll's playhouse (Fig. 1). This effect is further enhanced by the feeding-bottle (with perforated cap) which extends down through the roof, and is of the proper

length to project far enough to have aspect of a chimney (Fig. 1). The inventor is in such hearty sympathy with Old Saint Nicholas, and a magazine of that name so full of good things for the young folks, that it seems eminently fitting that the honey-bees should get their presents of sweetness—a la Saint Nick—down the chimney!

The house-like appearance is further increased by a neat label on the gable end, in the place usually occupied by the attic window.

The door is a swinging wire screen, so that the entrance may be easily closed when the hive is to be carried from place to place for observation or experiment, and when the professional bee-keeper desires to take it to an outdoor apiary as an enlarged nucleus for breeding purposes.

In the invention of this hive I have had in mind several purposes.

1. To supply the educator with an inexpensive, attractive miniature hive, all complete with comb and colony by the manufacturers or by a large apiary. For demonstration in the yard it prevents the disturbance of a full-sized working colony. For the schoolroom it can be easily carried, taken apart, and put together, and yet it shows in miniature everything that could be shown by a large hive, which it would be difficult or impossible to take into the schoolroom.

2. For the young folks a hive that will give them a start in the fascinating work of bee-keeping and observation, at a minimum of cost. To the large apiarist it is what the flower-bed or school garden is to general horticulture or to agriculture. It is a sample. It shows the thing and gives the simple scale. In floriculture or in vegetable gardening the child enjoys the small bed more than he would do if obliged to cultivate an acre, or even a market wagon full of lettuce or radishes or popcorn. But before the coming of the Pearl Agnes hive there was nothing for the interested boy in which to keep a colony, except the regular hive used by the large apiary, which often contains a thousand colonies. This hive is, then, for the young folks a play apiary, as well as a means of nature study.

3. For the commercial apiarist this Pearl Agnes hive is better in some respects than the usual "baby nucleus" for mating, because "the nucleus" is too small for that purpose, except with close and continued attention. It is a hive to be kept especially for exhibition to visiting friends. This is better and easier than to disturb one of the regular colonies by taking it out. It may also become a source of income if it be purchased empty from the manufacturers, and filled with a complete colony and supplied to nearby teachers. As previously explained, the supplying of the hive thus filled would be equivalent, in number of bees and quantity of comb, to five-sixths of a two-frame nucleus. Simply put six of these section frames into two full frames, and fill the Pearl Agnes hive with five of these frames. But, better than all this, perhaps, to the professional apiarist, it solves the problem of plenty of queens in early spring, when queens are not only the most valuable but the rarest. Queens are most easily obtained in the latter part of summer or in early autumn. They are most needed in the spring. A ten-frame hive fitted with thirty of these large sections may be divided into six Pearl Agnes hives, and thus five extra queens for that one hive carried through the winter. In early spring all the thirty frames may be put back into the ten-frame hive, and there will then be five extra queens to be used when queens are queens.

The first Pearl Agnes hive was roughly made up in 1905 from my drawings and specifications, and was placed in the hands of my esteemed friend and honored fellow-townsman Mr. L. C. Root, who is well known as the author of "Practical Bee-Keeping," and an apiarist with an experience of almost half a century conducting apiaries of the largest size, and he is still an enthusiast with many colonies. He reports at the present writing (last week in March 1906) the bees have wintered astonishingly well (indoors) in this Pearl Agnes hive. I am indebted to him for the suggestion in regard to the pos-

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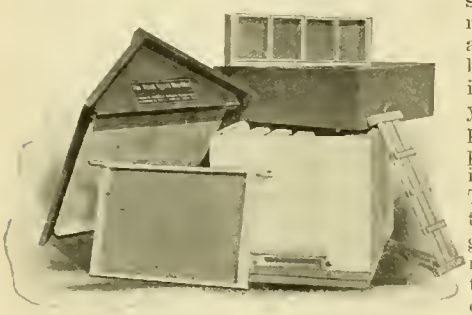
session of plenty of queens in early spring.

4. To the experimental apiarist, the advantages of the hive are so many and so important that I prefer to defer even suggestion in reference to them till later, when I may be able to announce and to illustrate some of the things that have been done, rather than predict what possibly may be accomplished. I will merely advise the reader to procure one or more of these hives; and my assurance is that, if he will handle them, study them, and dream about them as much as has the inventor, some of the suggestions will come to him spontaneously, and thus give him all the charm and pleasure of orignal discovery. The results of such discoveries may add much of value to the apiarist as well as to the scientist. It would be, you know, difficult to play a game of chess through all its entrancing situations if the men were of full size. One can often imagine and theorize better in miniature, better with a plan than with the completed house, better with a map than with the country itself. Perhaps these advantages



will be yours if you become an experimental apiarist with the Pearl Agnes hive.

It is not for me within the province of this article to tell you what I think the manufacturers intend to do with this hive. But I will give you a small hint as to what I suspected was in the mind of one of the managers when he said a certain thing. From this I infer (and I "guess" that the inference is well founded) that they no more expect to make a profit directly from this hive than the fisherman expects to eat the chubby little "shiner" that he puts on his hook when he goes angling for pickerel. These shrewd manufacturers know that bee-keeping is fascinating, and that all they have to do is to get you started. Everything else follows easily. So this hive will be put on the market at less than net cost, and in this laudable action the manufacturers will not be hampered by any patent to be taken out by the inventor. He has too strongly at heart the interests of apiculture as an educational factor.

But, to revert to the figure of the fisherman and his bait. The parallel is not quite true, and so far as it is inaccurate it is to your advantage. This "bait" (the Pearl Agnes hive) in itself is good, and the more freely it is offered (by the manufacturers) the more reason for your pulling it off the "hook" and taking it home with you —in fact, get several of the "baits."

The name "Pearl Agnes" is in honor of the 10-year-old sweetness-maker of the "B(igelow)-hive" in which I am writing.

Where Do the Flowers Get Their Color?

BY GASTON BONNIER.

Why are the flowers adorned with rich colors? The poets have found many answers to this query, which today is raised anew with violent controversies among the learned. There is a theory, first expounded by a bizarré personage under the name of Christian Conrad Sprengel in 1793, which has been everywhere believed. This theory postulates a perpetual strife on the part of the flowers for brilliance in order to win recognition at a distance from the honeyed insects. It is to attract these that the corolla is decorated with bright hues.

I occupied myself with this question for a long time when I was doing some work for my thesis for the doctorate of sciences. I was taught the absolute reciprocal relations between the insects and the flowers, the attraction of the bees by the colors. I was convinced in advance, with the enthusiasm of youth, that my observations and experiments served to confirm all the points of these propositions in bringing fresh proofs to bear upon them. The excellent Decaisne, a little skeptical on this point, encouraged me to go on in my work. At the end of some months I was desolate. All my observations and all my experiments contradicted the theory of reciprocal adaptation, and in particular the role attributed to the color of the flowers in the attraction of the bees.

After a continuation of my observations I prepared a list of plants whose flowers are scarcely visible, obscure, uncolored, or green like the leaves of the plant itself, but which all are most nectariferous and abundantly visited by bees and other insects. To this list I added that of all the trees on whose leaves the bees sought their honey stuff —leaves not colored otherwise than neighboring leaves without the honey —and all the plants where insects come for nectar, besides flowers, the various parts of a vegetable, not colored, not visible, and wherein are situated the nectars termed extra-floral.

I prepared another long list, including the names of plants with highly colored flowers, but wherein there was no secretion of sugared liquid, where, in consequence, the insects did not come.

As for experiments, I made many and varied, all of which bespoke the same truth, that there exists no correlation between the presence of a lively color and the quest of a sugary liquid by the bees. I will cite but one. I disposed squares of many colors on a uniform green foundation of grass. The same quantity of syrup or honey was placed in the middle of each square. The bees discovered these various depots of sweet liquid in the same time without the color influencing their search. The red square on a green foundation attracted them no more than the plain green square where the same amount of syrup was to be had.

The result of all my experiments was the following:

The development of colors in floral organs and that of nectar are not concordant.

Under the same conditions the most highly colored flowers are not the most visited by insects.

The visibility of flowers is not proportioned to their adaptation to cross pollination.

The insects go in the largest numbers where the nectar is the most abundant, the richest in sugars, and the easiest to take.

The researches made by M. Felix Plateau, professor of the University of Gand, are important, his observations most numerous, his experiments varied.

First he verified with many details one of the points which I proved, that bees show no preference or antipathy for the diverse colors which the flowers of the different varieties of the same species can present.

But this Belgian scientist did not content himself with verifications. He made artificial flowers, excellent imitations, of paper or cloth, and the bees did not visit them. He constructed others of living leaves with the natural vegetable odor. If he put honey in them the bees visited these false green flowers; if the honey was withdrawn they ceased their visits.

When the nectariferous part of the natural flowers was removed, leaving the brightly hued corolla, the insects came no more on their quests. If, on the contrary, the nectariferous flowers were hidden beneath green foliage the insects knew how to trace their invisible prize.

Finally, M. Plateau placed a glass in front of a nectariferous flower. If it were the sight alone which guided the insects they would go as soon to the perfect image of the blossoms reflected in the mirror as to the blossoms themselves. But the insects were undeceived. Instead of striking against the glass as they entered the room they turned directly to the flowers as if the mirror did not exist.

The general conclusion of M. Plateau's researches is identical with that which I formulated twenty-five years ago; the insects are guided to the flowers by another sense than vision and which only can be smell.

This does not say that it is the perfumes of the flowers which attract the bees, because perfumed and nectariferous flowers seem in general to be without sensible result.

It is not the fragrance such as we conceive subjectively, it is a special, subtle odor which permits the sugared matter to be recognized.

Indeed, substances which we cannot recognize by their odor are found by the bees. I have often made the following experiment—for example: Bits of ordinary sugar, which have no appreciable odor at a distance, are placed in a dark pavilion, closed, where there is no honey or objects having a special

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fragrance, and where the bees do not come. On the morrow, sometimes the day after, the bees have discovered the sugar and have recognized it as a useful material. Nibbling at the morsels with their feeble little mandibles, they realize that this process is not practical for gathering the sugar. They go for water to dissolve the sugar and then pump out the sugared water.

The preceding suffices, I think, to raise doubts as to whether we owe the colors of flowers to the bees, as Sir John Lubbock said.

Then why are flowers colored? Why not inquire to what mysterious adaptation we owe the color of the rocks, of precious stones, or of sunbeams? This, evidently, is neither a reply nor an objection. But the partisans of the Sprengel theory have this to answer: Why are mushrooms rich of hue? Many who are convinced of the floral adaptation to insects say that the edible mushrooms are colored like the poisonous varieties so as to prevent being gathered. As well might we say that the poisonous varieties assume the colors of the edible kinds so that they may be sought!—Times-Democrat.

Report of the Chicago-Northwestern Bee-Keepers' Association, held in Chicago, Wednesday and Thursday, Dec. 5 and 6, 1906

(Continued from page 521)

Introducing Queens.

"How do you introduce queens?"

Mr. Taylor—I seldom introduce a queen except in the spring. If I want to change a queen, or the colony is queenless, I open the hive and observe the conduct of the bees, and you can tell, if they have a peculiar way of acting, running together, perhaps running towards your hand a little, with their wings lifted and a slight shaking motion, you can turn your queen right in. They are all right. Sometimes, if I am in doubt, I will put a queen-excluder on the top, let a few bees come up, let the queen loose and decide then. I hardly ever cage a queen in the spring, because the bees are so anxious to get to work that they will almost invariably accept the queen; in fact, I do not know that I remember when a colony that was queenless refused to take a queen early in the spring.

Mr. Abbott—Suppose you had a black queen and you wanted to give them an Italian.

Mr. Taylor—Take her out and wait a day or two to let them find out they had lost a queen. They are terribly anxious to get a queen in the spring, and that running together a little and a slight shaking of the wings shows that they are looking for one.

Mr. Abbott—I supposed that among all the progressive bee-keepers the one most in advance and at the forefront was R. L. Taylor, of Michigan.

Mr. Taylor—No; I am a fogy, sir.

Mr. Abbott—But I see he says that the hive should be left for a day or two for the bees to find out that they are queenless. Now in the name of common-sense, I want to ask *why?* I asked that question, and I asked it that I might bring out just that one idea. *Why* make a colony know it is queenless? There is something to this. You are wasting a great deal of time when you wait 2 days for the colony to find out that they are queenless. Now if Mr. Taylor will tell *why,* perhaps I will say something more.

Mr. Taylor—Two days early in the spring do not count very much, and you do not have to wait to see whether they are ready to receive her or not. It is the easiest way. Of course, I remember at one time that I was handling some bees, when I used to fool with them, and had a lot of them shaken on the ground, and in stumbling around with my big feet I must have hurt the queen. I noticed before I got through the colony that the bees were in a turmoil. They were running up on the front of the hive, and on the side, and looking around as lively as possible. I concluded something had happened to the queen. I looked on the ground and found I had stepped on her. I got another queen and they were perfectly satisfied with the other queen.

Mr. Abbott—I have been trying for 20 years to get into current bee-literature and bee-books this one statement, that it is not necessary for any colony to be made queenless in order to introduce a queen safely a day, or an hour, or a minute, except what time is necessary between pinching the queen's head off and turning the other queen out, or putting her in a condition to get out. After 20 years' trial I do not think that that statement is in a bee-book, or in any bee-literature that has not come directly from my mouth in reporting something that I have said in a convention about it.

Dr. Miller—Allow me to speak and say right here that Mr. Abbott perhaps never reads anything I write, or he would not say that sort of thing.

Mr. Abbott—I beg your pardon, then. It is not in any book.

Dr. Miller—It is in the American Bee Journal.

Mr. Abbott—I have said it in the American Bee Journal several times, commenced about 25 years ago, and I have been saying it ever since. I want to say again, for the benefit of those who have not heard me say the same thing, that I never make a colony queenless. I do not rear queens any more, but on every cage I find directions, and those directions I invariably tear off because they say to make the colony queenless 48 hours, and then introduce the queen.

Dr. Bohrer—Do you simply remove the queen, destroy her, and turn the other one loose?

Mr. Abbott—No, sir. When I have a queen or a half a dozen queens that I want to keep, I put them on top of the frames of a colony and leave them there 2 or 3 days. If I want to introduce one of those queens I hunt out the old queen, pinch her head off and turn one of the others free. If I wanted the old queen free in the hive day after to-morrow, having introduced one to-day, I would take that old queen out, put her into a cage and turn another one free, and in a very little while the queen in the cage is out on the combs laying, and the bees never know they have been queenless. They have no feeling of resentment towards those queens in the cage any more than they have to the one free on the combs. They are just as friendly with any one of the 5 queens on top of the frames as the one in the hive laying eggs, and they take one just as well as another. What is the use of killing the queen and having them start queen-cells, which they will in 48 hours, and take the chances of their killing the queens? When they start cells they are antagonistic to any queen, even their own queen.

Dr. Miller—How long after you put that queen in before the bees liberate her?

Mr. Abbott—I fix it so that she will be out in an hour—not to exceed an hour.

Mr. Whitney—I purchase a considerable number of queens usually, and I have been anxious to find the best way of introducing queens, having tried various methods. I heard Mr. Abbott give his method of introducing queens here, a couple of years ago, I think, and thought I would try it. I sometimes get a half-dozen queens in rainy weather. Perhaps there will be 2 or 3 days of bad weather; I can't introduce them. I know what colonies I wish to introduce those queens to, and I distribute them around over the frames and leave them there till the weather clears up so that I can introduce them, and then I remove the old queens and let young queens free immediately. I have never lost a queen, when introducing them in that way. Of course, I would do the same thing if the weather were not bad, but it is a convenience if the weather is bad, to take this plan of doing it, and it never fails under any circumstances with me. Always place the queens over the frames of the colony in which you wish to introduce them, without removing the little pasteboard or cork, and when you get ready

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to introduce them, remove the old queen from the hive and let the queen free immediately; and, as Mr. Abbott has said, you do not then stop the production of bees in the hive. The old queen goes on laying all the time up to the very moment of her exclusion from the hive, and the new queen takes her place. I think it is the best method I have ever known.

Mr. Wilcox—If you could not place her over the colony, would you place her between the combs?

Mr. Whitney—Yes, you might do that; but I have placed the cage at the entrance of the hive. My hive-entrances are wide, but just about high enough.

Dr. Miller—You could not do that in cool weather.

Mr. Whitney—Not very cool weather, no. I would not do it in cool weather. But I merely mention that I have done it in warm weather, but with my kind of hives there is scarcely any necessity for it.

Mr. Wheeler—What do you do with the attendant bees—bees that are with the queen? Do you kill them?

Mr. Whitney—O, they take care of themselves, or the other bees will take care of them. I don't pay any attention to them at all.

Mr. Abbott—Let them alone. They will do no harm.

Mr. Kimmey—You say turn the queen loose immediately; make the opening so that she can walk right out?

Mr. Whitney—Yes; run a pencil through and puncture the queen-candy and let the queen out. She will usually remain in the cage for several hours, and the bees will go in. They do not often run out immediately, but I will let them free and turn them right out. Ordinarily they remain in the cage for several minutes, or hours, possibly.

Mr. Hutchinson—I think that the idea of letting the queen free at once without leaving the colony queenless until they find out they are queenless is probably all right. The only reason that I could see in keeping a queen caged 2 days or more before letting her out is that sometimes it seems as though the mood of bees changes. You will come to a hive sometimes with a queen-cage in it, and you will find bees sticking right over the cage like so many burdocks, and perhaps the next day they have changed their mood and are walking peacefully over the cage. If you release the queen when they are inclined to bother her, they might kill her. I think it is much better never to let a colony know they are queenless. Don't leave them queenless long enough so that they find it out. I introduced a queen last fall after the honey-flow had ceased, when it is somewhat different. I went over the hives and found the queen. As soon as I would find the queen I would kill her and open that cage at one end and fill it perhaps an inch or an inch and half with sugar candy, and put it back in. I do not suppose those bees knew they had a new queen, and out of the 40 I lost 2 queens. Those were strong hybrid colonies.

Mr. Moore—Mr. Hutchinson, what would you do now to save the queens to those 2 strong hybrid colonies, in addition to what you did before?

Mr. Hutchinson—I don't know that I could do anything.

Mr. Whitney—I have introduced a strange queen to a queenless colony and she was accepted immediately. There would be a buzz of bees all over the frames and down through the hive the moment she struck the top. An exception, of course; that would seem to be a sort of freak of the bees. I don't know why they accepted her so suddenly or willingly, but they did.

Mr. Taylor—They will almost invariably do that in the spring.

Mr. Abbott—Never turn a queen free if you have one or more cages, if the bees are not walking around naturally, no difference whether they have been on there 1 day or 3. Never turn a queen free under those circumstances. Simply close up the hive. You have the old queen laying. That is the advantage of having a queen on top. Tomorrow, if all is quiet, and they are walking around naturally, hunt out the old queen. If they have had 48 hours and have started queen-cells, then if you can't put her in, it leaves another day to work on the cells.

Dr. Miller—I want to say just a word on introducing as Mr. Abbott advises. I think I objected at one meeting here that there was some delay in doing that way, but a good deal of experience since has made me appreciate very much the advantage of having a queen in the hive some time—that is, the new queen in the hive—some time before the old one is removed. As probably all here know, it is not an easy thing to introduce a virgin queen, and since that time I have introduced a good many virgin queens, using simply the advantage that Mr. Abbott speaks of, of allowing that there is just a little advantage in having the new queen get acquainted while the old queen is in the hive. When you take away the old queen you are throwing them into an abnormal condition and they are likely to show fight. When she is put in the hive beforehand, they are indifferent to the new queen. I don't know if it is because she gets the scent of the hive, or for any other reason, but I do know that a virgin queen, or any other queen that has been imprisoned in the hive for some time while the old queen is present, will be accepted kindly if freed by the bees a short time after the old queen is removed.

Requeening or Superseding Queens.

"Shall we requeen colonies having old queens, or let the bees do the work of superseding?"

Dr. Bohrer—It is questionable when a queen may be considered old. I have had queens 4 years old that were very prolific and laid as many eggs as any queen I have, and I think it would be policy for a bee-keeper to watch his queens and see what they are doing. If, for any cause they do not seem to lay the requisite amount of eggs at any age, I would supersede them; but as long as the queen is fertile and in good condition, keeping the colony up, I would not molest her, even to 3 or 4 years old, because from my observation they will lay eggs until they are that old; so that there is no fixed rule about that, perhaps.

Mr. Whitney—I suppose that when one discovers drone-larvæ in worker-cells it is a pretty good indication that the queen ought to be superseded, whether she is old or young. Usually you may find those in a colony where there are old queens, but I have a case which I have written up twice, and some people questioned my accuracy. I had a queen that I found in the spring laying drone-eggs in worker-cells. She was only a year old. I thought very much of her. She was the daughter of the old queen that so much has been said about, and she looked very poor. She came out poor in the spring. I commenced feeding her bees with good, rich honey, a little at a time, each night, and within 2 weeks she was laying worker-eggs in worker-cells, and during that summer I made 4 colonies of bees from that queen.

Dr. Miller—Does Mr. Whitney think that an exceptional or a usual case?

Mr. Whitney—It was the first I ever knew, or ever heard of.

Dr. Miller—It is the last you will ever know of.

Mr. Whitney—Some say, "You must have been mistaken; it must have been a young queen that superseded the old one, and you thought it was the same old queen." The fact is that queen was clipped soon after she commenced laying, and I watched her from that time until she died, and it was the same old clipped queen. A doctor in Switzerland has taken the question up and asked me whether I was certain it was that queen. He said it was a very unusual thing, and something he never heard of. But 2 of my old bee-keeper friends were there when I took the frames out of that hive, and showed the worker-comb full, or two-thirds full, of drones, and they said, "Isn't that too bad?" Well, I thought so. I expected to have to supersede the queen, but I did not. I kept her that summer and made 4 good colonies of bees from that queen by feeding. She was a young queen, though. I would say that an old queen should be superseded, but the question is, What is an old queen? Some queens are old at a month, and others not old at 2½ years. It depends upon how hard the queen has been worked. A good queen you might keep 2 or 3 years, and with a poor honey-flow she would not exhaust herself for 3 or 4 years.

Mr. Hutchinson—What I want to know is, shall *we* do this work, or shall we leave it to *the bees* to do it? Who has been at work superseding the queens themselves? Mr. France, do you supersede the queens or let the bees do it?

Mr. France—As a rule, I supersede them.

Dr. Miller—Does a queen do better work, as a rule, in her first or her second year? That will help us a little in deciding, if we can get some testimony about that.

A Member—The best queen I had last year was 3 years old. She made the record of the yard.

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Mr. Taylor—My object in keeping bees is to make something out of them. I want to make the largest percent on my labor, efforts, and expense, that I can, and I think I can make more by letting the bees do the work; and nowadays I do not practice meddling with the queens except in an occasional—very exceptional case. Of course, once in a while, when I see that there is any need of a new queen, and that the bees are not likely to supersede the queen themselves immediately, I may interfere! but I let the bees do that work, and I do not believe that I could improve much on it any way.

Mr. Whitney—If you find you have an old queen, and she is liable to be superseded, perhaps in the fall, it seems to me it would be a good deal better to supersede her in August than to let the bees supersede her in October when there are no drones flying, when you are liable to have a virgin queen there, to be a drone-layer in the spring.

Mr. Taylor—That is not likely to be the case. Bees supersede their queens in the summer-time. Of course, that is the time to do it, and they seem to know that that is the time to do it. Of course, there may be exceptional cases, but I should very much dislike to overhaul 50 colonies of bees to find out whether there was one queen that needed superseding, because the bees were going to supersede her in the fall. It doesn't pay.

Mr. Whitney—Keep a record of the age of the queens.

Mr. Taylor—That makes lots of work.

Mr. Wilcox—I am astonished, and I want to know if anybody else has ever thought of such a thing as queens being superseded in October, a month or two after the season's harvest was over. I did not know that such a thing ever happened except by accident.

Mr. Abbott—I confess I am astonished. I am like Dr. Miller now. I am more astonished than he was, to think that any one would advocate at this time that we should let nature alone. Let me give you an illustration from the dairy business: The Babcock test has eliminated from the dairies of this country about half the cows that were in the hands of intelligent dairymen, because they were eating more than they produced. It is not necessary to overhaul a colony to see how old the queen is. It is unnecessary to "count the rings on her horns" as you do on a cow to see how old she is. It is only necessary for the intelligent manipulator to know that there is a colony, No. 22, that is not paying its way. If 22 is not paying its way, 9 chances out of 10 the queen is responsible for the nonpayment. An intelligent answer, it seems to me, would be to take off the head of No. 22's queen and put one in there that you thought was better. That would be improving on what we call the "natural method," just as the dairy people by selection have improved the Jersey cows and the Holstein cows until they have nearly doubled the butter-production of the Holstein herds. If they can double the butter-production of the Holsteins by careful selection, can not the bee-keepers and queen-breeders eliminate the poor queens and double the production of the colonies of bees in the country in the same way? It seems to me we can. This is an age of progress and scientific investigation, and we ought to take advantage of it, it seems to me. Take the heads off the queens whose colonies are not paying their way.

Mr. Taylor—I do not like to take up the time of this Association in talking. I like to say a word once in a while, but I do not like to talk so much. If you are willing to bear with me a few minutes, I will try to explain this thing that Mr. Abbott seems to be entirely astray on. Now the two cases are not parallel at all.

Dr. Miller—Correct.

Mr. Taylor—I am glad you are with me, Doctor. They are not parallel at all. It will take me 2 or 3 minutes to explain why they are not parallel. Take cattle. I suppose originally they were in a wild state, and they had long horns and they were fleet of foot, and they had great courage, and they were rustlers. That is, they were fitted to their environment. They were so [illegible]ed and so developed that they were able to survive under the hard circumstances in which they were placed. They were able to fight. They were able to escape their enemies by flight, when it was really necesssary. They were able to hunt their food in difficult places. Now, then, suppose Mr. Abbott had some of those cattle and he wanted to develop them in the line of fighting and rustling for their food and fleeing from enemies, and this sort of thing. Would he be so particular about picking out animals that were not fleet and not fighters? Why, no. He would not expect to develop them very much. They have been developing for ages and ages. The weak ones have gone down always. They could not get food. They could not escape their enemies. They could not repel their enemies, and they have developed, I may say, to the highest possible stage of that sort of existence. Now take bees. The bees have not been developed as fighters particularly, except what was necessary to keep out certain enemies, but they have been developed from the very first for the production of honey, because upon that alone has the existence and continuance of the race depended. Now I know it is against the generally received opinion among bee-keepers, but bee-keepers are all astray in this everlasting talk about improving the honey-gathering qualities of bees. Why, we can do a deal better than that. They are developed. Of course, we may do a little something in the way of increasing that, but we perhaps better do it negatively. We ought to let those that are not doing well perish of themselves, as they will. We make a mistake in nursing up those that are not able to survive of their own efforts, and feeding them and trying to get them through the winter, and all this sort of thing; but if we turn our attention to developing bees in the way of right capping of honey, in the way of making white comb honey, in the way of properly filling their sections, making straight combs—for there is quite a difference in that—and in some other points that I might mention if I could take the time to do it, I tell you we would make a big improvement in bees, for the reason that the bees have not found it necessary to develop in these lines. It didn't make any difference to them whether the comb was white or dark, or what was the matter with it, only that they had honey where they could get it. Now I say, if I had any influence among bee-keepers I would have them turn their attention to doing something that there was some prospect of their being able to acomplish.

Dr. Miller—I want to apologize to Mr. Taylor for agreeing with him. [Laughter.] I am very sorry I said a friendly word toward him. Mr. Abbott, I think, switched off entirely from the question, and when Mr. Taylor followed and drove the wild cattle, he went still farther. The question was raised whether it is better to allow the bees to supersede, or for the bee-keeper to take the matter in his own hands. Then Mr. Abbott raises a very important question and he did not say too much about that, and I am with Mr. Abbott and dead set against Mr. Taylor, that he can not improve the bees. But they are both away from the question. The question is not whether we are going to improve our bees, but whether, with the bees we have, it is better for us to take the matter of superseding into our hands or leave it in the hands of the bees. I regret to say I am with Mr. Taylor in thinking it is best to leave it to the bees! [Laughter.]

Mr. Wheeler—I stand for Mr. Taylor.

Dr. Miller—Keep to the question now.

Mr. Wheeler—No, I think for the benefit of the convention, if you will allow us a word about this very important question—

Dr. Miller—Yes; but let us finish this other question first, and then go to that.

Mr. Wheeler—Mr. Taylor and Mr. Abbott have been talking on a question that I think is very vital to bee-keepers.

Mr. Todd—Take it up after lunch. It is a big question they are discussing.

Mr. Wheeler—Just as you people say. I would like to say a word about the requeening of bees.

Mr. Taylor—I would suggest to wait until it comes up. We will have it up after this, I presume.

Mr. Whitney—I simply wish to reply to Mr. Wilcox in regard to superseding. Perhaps I made a little strong statement, but when I close up my hives with a clipped queen and in the spring I find a young queen with two good wings, I conclude that the queen has superseded.

Mr. Wilcox—I asked that question for the interest of the published report, not particularly for the bee-keepers present, but it will be read by the people all over the world, and I did not want it to appear, unless it was true, that the queen was superseded in October. I did not know it was.

The report of the Committee on Resolutions was read by Mr. Hutchinson, which, on motion, was adopted.

A photograph was taken of those

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present, and then an adjournment until 1:30 p. m.

SECOND DAY—AFTERNOON SESSION.

After calling to order, Mr. Lyman described his management of the hive during the swarming and honey season.

Dr. Bohrer—What is the principal advantage you claim for that arrangement?

Mr. Lyman—It keeps the bees all at work in the front brood-chamber undisturbed, and at the same time prevents swarming. In my experience, after you make this change, there is no danger whatever of the bees swarming for at least 21 days.

QUEEN FERTILIZATION AFFECTING DRONE-PROGENY.

"Does the fertilization of the queen affect her drone-progeny?"

Dr. Bohrer—I wrote that question, and the reason I did so was not to make an attack upon any queen-breeder at all, nor upon any author, but to call attention to what I regard as an error. I will name the gentleman, and I regard him as a high-toned gentleman, and a very honorable man—stands so, I think, before the bee-keeping fraternity throughout the United States and everywhere he is known. I have reference to Mr. Doolittle. When I first commenced to read bee-keeping and study it carefully, I was attacked through the press several times. I went all the way through the State of Michigan and discussed it before the Michigan Bee-Keepers' Association, at the request of Prof. Cook. Two or 3 years ago I wrote him asking whether he had experimented any concerning that matter, that is, the effect the fertilization had upon the queen's drone-progeny. He said he had not only experimented, but he had proved my theory to be correct. Mr. Doolittle takes the position that it does affect the progeny of the queen, and I believe he says the fourth generation has produced a queen no one could tell from a hybrid. While I believe he is candid and sincere in his conclusions, the manner in which his experiments were conducted I am satisfied was erroneous. I doubt very much whether Mr. Doolittle is so situated that he can have four generations of bees and the fourth queen successfully fertilized where he is situated, on account of the fact that there are hybrid bees all around him, and on that account I think it is true that the drone-progeny is affected by her fertilization. The spermatozoa are lodged there—never escape at the will of the queen. When depositing a worker-egg she fertilizes that at will as it passes the mouth of the spermatheca. To suppose that affects the drone-progeny is to suppose it becomes a part of her system, that the spermatozoa become food and consequently part of the system of the queen. That is an utter impossibility. The revelations of the microscope prove the contrary, and I am satisfied that Mr. Doolittle, although honest and sincere in what he teaches, is mistaken, and I would not like at this time to have the idea go out that such a thing is possible, because it is not.

REQUEENING OR SUPERSEDING QUEENS.

Mr. Wheeler—Before dinner I was going to speak of the value of changing queens. We read a great deal, and it was the talk of some of the gentlemen before dinner, about when a colony showed weakness or anything the matter with it, to change queens, and by selecting the right queen you improve your stock of bees. That is right to a certain extent, but I think it is carried too far. In the spring, quite often when the bees come out of the cellar, they will fly together and are quite apt to kill off the queen. There will be a very strong colony of bees, and when I look a little later they will have their queen killed, and there is a great lot of bees, and what am I to do with those bees? They are losing their time. I will look around and find a colony withered away—a few bees with a queen. I put that queen in the colony with the colony ot bees and that queen will lay eggs, when she gets started, for all the bees that are there—fill 2 or 3 hives. If she had been left with that little colony, her stock was bad and not worth saving. I think that the bees have a great influence over the queen. The care they give a queen determines how many eggs she will lay, and determines her life as long as she has her youth and strength, and I think there is a great deal too much stress laid on the point of the queen being to blame for a colony being weak and dwindling.

PROGRESS OF BEE-KEEPING.

"Have we made any progress in our industry in the last twenty-five years? If so, what is it?"

Dr. Miller—I think we have made some progress right in that very way, if Mr. Wheeler will pardon me, in trying to do something toward getting better stock. It is all very true that is makes a big difference. You put a queen into a little handful of bees or with a strong colony—she is a different queen altogether. But, after all, there is a material difference in the queens themselves, and I would deprecate the idea of trying to discourage any one from doing all he can to improve his bees by getting better stock. As far as improvement is concerned, I think we have made some changes within the last 24 hours, in our views—some of us. There is a change going on. I am very sure that I know some things I did not know 25 years ago, and I am very sure that there are some things I do not know now that I thought I knew 25 years ago. Whether it is an improvement or not I am not so certain, but there are changes going on, and when we are not standing dead still there is a possibility of our improving, so that I think the thing is hopeful that we are going on a little.

Mr. Wilcox—It is 25 years or more since I commenced attending the "Northwestern" convention and other conventions in this city, and as I compare what I have heard today and yesterday, with what I heard then, I am very emphatically of the opinion that the great mass of bee-keepers who attend conventions have made improvements, have improved themselves in knowledge. At that time half a dozen men would run a large convention. The rest knew nothing, or said nothing, anyway, and did not seem to understand fully what they heard. I am sure that bee-keepers as a whole are advancing. They are better advanced, on an average, better educated in the science and art of bee-keeping; and when he says "we" I suppose he does not mean, has there been something new learned that was never known before? but have we, the bee-keeping industry, learned anything in the last 25 years? The most of us have.

Dr. Bohrer—I was, I believe, in the first bee-keepers' convention in the United States, and I do not know but one other man now living that was in that convention. That was Mr. M. M. Baldridge. I am satisfied there is great progress in one particular. Then it was almost imposible for a bee-paper to live. Now there are 5 or 6. I hope the subscription list of the American Bee Journal is much greater than it was then. I was one of its first readers. There are other bee-papers. Gleanings has a good circulation. Mr. Hutchinson's paper has a good circulation. There are thousands of people reading bee-literature now. Now we do not call a man insane for paying $10 for a queen in order to Italianize a colony of bees. So there is progress shown in that respect.

Pres. York—I think Mr. Taylor can remember 25 years. Does he think there has been any progress made?

Mr. Taylor—Why, yes. You can't stir around 25 years without knowing something more than you did before.

Pres. York—If so, what is it? is the question.

Mr. Taylor—That would be a pretty long story if I told it. We have made a great improvement in hive-fixtures, for one thing. We get our honey in a great deal better shape than we used to. When I commenced keeping bees we would have a box made of half-inch stuff to reach across the hive.

Dr. Miller—You are going back more than 25 years, now.

Mr. Taylor—Not much more. Have a hole in one side and two pieces of glass on the end and a board laid over the hive, with a couple of holes in it; set two boxes in it under the cap on top of that board. There is quite a difference between that and the comb honey that we produce now. I might go on and tell you about 20 things of that kind.

Mr. Todd—How have the average tons of honey increased in 25 years?

Mr. Taylor—Well, they used to tell some big stories 25 years ago. One thing we have lost in—we do not get so much per pound. I have paid 20 cents per pound for honey in those old boxes, and some of it was not very good at that. A good many of us have learned a good many things, and some of us have learned a good many things that are not so, I think. But, on the whole, of course, we have made a wonderful improvement.

Mr. Abbott—I asked that question to bring out a point. It has not come out yet, so I will see if I can not get it out. I was just thinking over what

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growth and progress had been made in 25 years. It is 23 since I came from the East into the West. The growth of the industry as a whole is simply remarkable, when you think of it, the way it has spread and the way it has been reaching out, the growth of a factory here, a factory there, and factories do not grow for the production of anything unless there is a demand. The factories sometimes push ahead and introduce new things, and I think that the manufacturers of bee-supplies have done more for the country than any other class of individuals, or more for the bee-keepers of the country than any other class of individuals, owing to the fact that they have pushed to the front. They have pushed to the front some things that are worthless from my standpoint, but they are not worthless from the standpoint of other people, and therefore they are good. If a man puts to the front anything people want, he is a benefactor. When we think about the things that were not in existence, that were not obtainable 25 years ago, that are a help to the bee-keepers today, it would take the whole afternoon to tell about them, and these things have come to us on account of the push and energy of a half a dozen men in the United States. Some of our people say they have gotten rich, and are bloated bondholders, and have got more factories and great institutions, and they have done great things, and they ought not to be permitted to speak. They have gotten rich, they have made a few dollars, but the bee-keepers of the United States are millions of dollars better off than they would have been had these people not existed.

Age When Queen Does Best Work.

"How many think a queen does her best work in the first year?"

Pres. York—All who think so, raise your hands. 3. How many think a queen does her best work in her 2d year? 9.

Dr. Bohrer—I do not raise my hand in either case, because I do not know. My observation has taught me not to be positive about that.

Dr. Miller—Maybe somebody thinks the 3d year.

Pres. York—All who think the 3d year raise your hands. I do not see any one on that.

Dr. Miller—With that in view you may add one more to the 2d year. I did not vote. I know now!

Pres. York—You wanted to see which way it was going?

Introducing a Queen to a Laying-Worker Colony

"How shall we successfully introduce a queen to a colony with laying workers?"

Mr. Wilcox—We don't want to.

Dr. Miller—One way is to introduce a virgin queen just out of the cell. Almost invariably, if not invariably, she will be accepted.

Mr. Whitney—I asked that question, because last season I had a little experience with a laying-worker colony, and I had a great deal of trouble. I was removing some queens from other colonies for requeening, and I thought I would use those to test that laying-worker colony, and I introduced one in the usual way, kept her until I thought she had been recognized by the bees, and then I let her free. They killed her in a few minutes. Then I tried another plan. I took the bees all out and shook them on the ground at a distance, carried the combs back and introduced another of the same kind of queens, and the bees came back and killed her. I took the frames out of the hive-body and put them into supers. I filled up the lower story with frames of empty comb and put the queen in, put a queen-excluder over her and set the super of laying workers right on top, and they accepted the queen. But I guess it would have been better if I had broken up the whole business. I think that is the better way.

Mr. Wilcox—I said I did not wish to, and I do not; but I have done it a great many times by introducing a comb of hatching brood and about 48 hours after introduce another comb of hatching brood, and those hatching bees usually destroy the laying workers, or they cease to be laying workers, and will accept a queen or queen-cell. It will not work every time, but it does in a majority of cases. Sometimes I try the third or fourth time. Meanwhile they are hatching their bees.

Mr. Whitney—I had forgotten that. I tried that very thing. I put in one frame and then another, but they did not produce any queen-cells at all, and I just adopted the other plan.

"What percent more honey can be secured with the Danzenbaker than with other hives?"

A Member—Not any more.

"Which is best, to increase by natural swarming or artificial?"

Dr. Miller—It depends altogether upon circumstances, the man and his desires.

Mr. Abbott—Locality?

Dr. Miller—Yes; a great many things come in.

Hives in Cellar—Putting Out Bees.

"Should hives be set on an incline forward in the cellar? What are the conditions indicating the proper time to set them out in the spring?"

Dr. Boher—Yes, I would say to the first; and second, any day in March that is warm enough for the bees to fly out. That is in central Kansas. Farther north it would perhaps be too soon.

Mr. Taylor—As I set them I would not incline them. I set them directly up one on another. As to taking them out, Mr. Wheeler speaks of when he sets them out, they gather into the hives that are not their own. I can tell him how to prevent that. Do not take them out when it is warm enough for the bees to fly. Take them out rather early in the season, and taken out when it is too cold for them to go out of their hives. I generally take them out about the last of March and they are quiet, just as quiet out there on their stands as they would be if they had been there all winter; and when it becomes warm enough for them to fly they begin to fly just as they would in the spring if they had been out there in the winter, and we have no difficulty with their "drifting," as it is called, or swarming out, or anything of that kind.

Mr. Thompson—I would like to ask, in the case of drifting in the spring, is there danger of carrying foul brood at that time if there is any foul brood in the yard?

Mr. Taylor—I don't know, but I should think very likely there would be.

Mr. Kimmey—Two years ago I took my bees from the cellar, carried them out and put them on the stands on a bright, warm, sunshiny day. Immediately upon my moving them out, I narrowed the hive-entrances so I thought I would prevent any robbing, and they flew out and went back of their own accord, seemingly every bee in its proper hive. Last spring I took them out on a cool day and they staid out 2 days. I took them out Friday, and on Sunday morning the air was full of bees, and they "drifted" right into that corner of the yard, and this corner had scarcely any. That is an actual experience.

Mr. Taylor—Locations must differ.

Mr. Wilcox— I will say, in answer to that question, I agree with Mr. Taylor emphatically. I put my bees into the cellar without bottom-boards, and consequently they stand level. If the bottom-boards were on I would prefer they should be slanting, so that the bees in a warm spell might clean out the dead ones more easily. But in carrying them out in the spring I find it more convenient to move them while the temperature is going down. For that reason I carry them out between 4 o'clock and bedtime, and if they fly a little before dark all the better, but if they do not, they take their chances in the morning. It may be a foggy, wet day, in which case it would be bad for them, but otherwise it is all right.

Miss Wilson—We commence carrying out ours in the morning and carry them out as fast as we can. When we close the entrance down to a small entrance we have had no trouble with their mixing.

Mr. Kimmey—Perhaps I would better say I did not close the entrances, and perhaps that is the secret. The year before I was careful to close them, but having carried them out and leaving them from Friday to Sunday, left them open. I have the bottom-boards off all winter.

Mr. Taylor—In regard to closing the entrance, I think it is of prime importance that the entrance be closed up to say an inch just as soon as they are set out. As surely as you leave the entrances wide open, when a warm day comes robbing will be begun; but if you close them up to about an inch, you will never hear anything about robbing.

Mr. Pease—On that same theory, setting bees out in the spring and closing the entrances to prevent their robbing or drifting, as I understand the question, if bees are wintered outdoors, with what we call a small opening, in the spring when our bees come out, does the same theory apply to close the entrance to prevent bees from drifting or mixing when they take their flight in the spring?

Mr. Taylor—They are not apt to drift if they are out all winter.

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Mr. Whitney—With me, I never close the entrance, but mine is a double-wall hive, has a subway, and I do not have to close it in the spring or any time in the winter. It stands out all winter and I do not have any trouble with their drifting or going to other hives when they come out in the spring, because they come out always when it is warm enough during the winter any time.

The Best Super.

"What is the best super for comb honey?"

Dr. Miller—T-super.

Mr. Taylor—I would not have one on my place.

Pres. York—What does Mr. Taylor prefer then, a section-holder super?

Mr. Taylor—No, not exactly; I want a wide-frame, single tier.

Mr. Wilcox—That is mine exactly, for my locality. I think if I lived where Dr. Miller does I would not care so much for it. The reason I prefer the wide frame is because the top of the section is covered, and the bees can not fill it with propolis. They surely would in my country and they surely would not do it with white clover.

Pres. York—How many prefer the T-super? 4. How many prefer the ordinary section-holder super without a top-bar, like the wide frame, the ordinary section-holder super? 4. How many prefer the wide-frame super that Mr. Taylor speaks of? 5. Any other kind of a comb honey super?

Mr. Abbott—What does Mr. Taylor mean by wide frame—with slats in the bottom or what?

Pres. York—As I understand, it is enclosed all around, single-tier instead of double-tier.

Mr. Taylor—Top and bottom reversing, enclose the thing. If made right they are the best thing you can get, not excepting the T-super.

Mr. Abbott—I wouldn't have them.

Mr. Arnd—How do you get the sections out of such a frame as that?

Mr. Taylor—The great thing is to get them in. There is no trouble getting them out. I can show you. What do you mean, get the frames out of the hive?

Pres. York—How do you get the sections out of a wide frame?

Mr. Taylor—Supposing this is a wide frame (indicating). Of course the wide frame is made to clasp the section so that the bees can not get much propolis in between the top-bar and the section. Ordinarily, unless it is cold weather, they will come right out, unless there is considerable propolis there. In that case the top-bar may stick to the sections a little. In that case you want to just run a knife a little between the top-bar and the sections, then take your thumb-nail and press on the section at this end and just start it a little, and take that end the same, and they drop right out.

Mr. Abbott—You will wear your thumb-nails off.

Mr. Taylor—It won't wear mine off. Everybody that works with bees ought to have thumb-nails and finger-nails. It is just as necessary as to be ingenious. You can't get supers made right in the shop. I will tell you why. The manufacturers are careful to save every sliver of their lumber, and they cut the bottom and top-bar straight across. You want to cut them the right length and then let the saw run over the bar so it is not straight. It is a little bending. Then in nailing them together you put those bends in so they will hold on to the section, and they keep the propolis out.

Mr. Wilcox—I think there is a better way to get them out than that. I would not use the wide frames if there was not. I would adopt the T-super. I have used for many years a "back," or you might call it a "push-board." I wish I could illustrate it and possibly I can.

Mr. Taylor—To get them out of the wide frames?

Mr. Wilcox—Yes, sir.

Mr. Taylor—Where is your separator?

Mr. Wilcox—My separator is nailed right on to the side of the wide frames. It is a 4¼ section and a 3-inch separator, and there is a little space both above and below the separator. It doesn't extend clear to the top nor clear to the bottom. There is space enough so that a thin board, it may be wood or metal, is fastened on to the edge and sticking up an inch on each side, and then you take the wide frame with the tin separator side down, and lay it on that block so that the edge of the sections both top and bottom comes right along the edge of this strip nailed on to a little block here, or, if it is metal, screwed on. Then you push a little down on it and all your sections are pushed right up and out as far as you wish them.

"Is the T-super suitable for a beginner?"

Mr. Taylor—No.

Pres. York—It is all right for a man who has had bees for 40 years, and has written a book on them, I suppose!

Dr. Miller—I would advise a beginner, if he wants to begin with the best, to begin with a T-super.

"If the T-super is the great comb-honey super, how is it that it is not listed by manufacturers?"

Mr. Taylor—They know better.

Dr. Miller—Another question might come up on that: How is it that manufacturers list T-tins and do not list T-supers?

Pres. York—Because they want to sell them, I suppose. What do you know about that, Mr. Abbott?

Mr. Abbott—I know we have some we would like to get rid of. If the Doctor wants to make any T-supers we can furnish the tins. We have had them a long time.

Dr. Miller—I have some wide-frames I might trade for them. [Laughter.]

Advertising Honey.

"What can bee-keepers do to advertise honey?"

Pres. York—Mr. Burdette is here, who has had considerable experience in helping other organizations advertise.

Mr. Burdette—I was in charge of a press bureau that has been tried by the National Council of Horticulture, which is an organization to which applications have been sent by all of the trade associations of the seedsmen, florists and nursery men. The President of it is Mr. J. C. Vaughan. Horticulture has been taking quite a spurt in public interest in the last 2 or 3 years, and Mr. Vaughan conceived the idea of trying to give it a little impetus by teaching the public the value of shrubs and flowers, and the National Council of Horticulture has undertaken to supply the newspapers throughout the country with articles on horticulture—articles that would deal with the subject in a purely elementary way, and intended for amateurs. They are trying to get people to grow flowers and to plant shrubs in their yards. We conducted an experimental service a year ago for 10 weeks, sent articles to 2500 newspapers all over the country, and in most of those papers the articles were printed. Mr. York thought it would be possible to apply the same system to arousing public interest in honey. I do not see why it would not be possible. Horticulture, of course, appeals to more people perhaps than honey would, as horticulture appeals to more people than bee-keeping, but still everybody can be induced to eat honey, and if you put the advantages of honey before them in the newspapers, I should think it would help broaden the market. I have outlined in a letter to Mr. York a plan based on the experimental service that we conducted for the National Council of Horticulture, to send out to the newspapers about 4 articles every 2 weeks for a period of 20 weeks. That would be practically the same amount that we distributed along horticultural lines, except that it would extend over a longer period, not to give them so much matter at a time, and by keeping a check on that, a check of results, it would be very easy to determine what its value would be to the bee-keeper. We can find out just how many newspapers use that matter, and then the bee-keepers themselves could tell what effect it had upon the public, and it would be a very simple matter to determine just how far that method of publicity could be used to benefit the bee-keepers. Mr. York asked me to come here and explain this to you; it is pretty hard to explain in detail, and I am sorry I did not bring some of the clippings. We had great success with the horticultural matter. The Chicago Tribune published all we sent. The Daily News did also, and practically all the large newspapers all over the country we sent it to were glad to get it, and it seems to me similar matter might be gotten up about honey which could be used with equal success.

Mr. Taylor—I would like to ask a question. You say you are highly successful in this advertising. In what did your success consist?

Mr. Burdette—We succeeded in getting the matter in the newspapers all over the country. The seedsmen seem to be of the opinion that it helped them decidedly.

Mr. Taylor—In what way did it help them?

Mr. Burdette—It helped them by increasing the public demand for seeds and shrubs.

Mr. Taylor—Was it advertising seeds or novelties?

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Mr. Burdette—Practically old stocks.

Mr. Taylor—Weren't people pretty well advised as to old stocks?

Mr. Burnette—They certainly were not. The newspapers seem to believe what the people want is elementary instruction in horticulture. The fact is, most people don't know much about it.

Mr. Taylor—Did the instruction consist in directing as to gardening, as to plant-

Mr. Burdette—Simply general instructions.

Mr. Taylor—Not particularly as to purchase of seeds, simply how to take care of the plants?

Mr. Burdette—What plants are suitable for certain places. One article might be how to make a backyard garden, what kind of shrubs or perennials to plant, and how to take care of them. So about the color of the blossom, the kind of soil, whether to plant in a shady or sunny place.

Mr. Taylor—And what parallel is there between advertising in that way in regard to horticulture and in regard to honey?

Mr. Burdette—Of course, we would have to advertise in a different way in regard to honey. The only parallel is generally that all advertising, if good for one thing, is good for another.

Mr. Taylor—What instruction could you give in an advertisement in regard to honey that would be of benefit?

Mr. Burdette—Of course, it is not an advertisement. It is simply a little article.

Mr. Taylor—The effect is the same. That is, you look for an effect from the advertising, though you manage to get your advertising done without paying. Still, that is all the good effect you get, because your things are advertised.

Mr. Burdette—I should say that you could publish interesting facts about honey. Tell the people some things about honey, and they would begin to think about honey. If you told them the value of honey from the food standpoint, perhaps they would buy some.

Mr. Todd—There are two kinds of advertising. There is the plain, straightforward kind of advertising and the insidious. Mr. Burdette has been directing the insidious campaign in favor of the seed-business.

Mr. Burdette—It is more in the nature of general publicity than advertising.

Dr. Miller—If Mr. Burdette knows how to put the things before the public that we would like to get before them, we can get them to want honey a little more than they do now. Do you believe you could do anything of that kind?

Mr. Burdette—Well, I do believe that I could get interesting facts about honey published in the newspapers. I suppose unquestionably that would increase the sale of honey. I do not see why it should do otherwise.

Dr. Miller—Then I would say if you could increase the demand in that way we could sell it for a higher price. Do you believe, sir, that you can get the papers to put in some suggestion that honey is a good thing, that it is more wholesome to have honey than candy for children, and that they would live longer if they had honey?

Mr. Burdette—Of course not in those words.

Dr. Miller—I am not asking that.

Mr. Burdette—Of course, I have never tried to get anything about honey in the newspapers, but we have got stuff in about flowers and plants.

Mr. Todd—Entirely different; very different.

Dr. Miller—I don't know, sir, that it is entirely different. I think he could do it.

Mr. Burdette—My personal opinion would be that I can.

Mr. Chapman—I would like to state that Mr. Hutchinson had an article in the Cosmopolitan a few years ago that was interesting enough for the magazine to publish it, and was widely read over the United States. I had friends tell me that the best they ever read about bee-keeping was that article, and such articles could be put in the daily newspapers, not as extensive as his, and they would awaken an interest in honey.

Mr. Thompson—When it comes to newspapers printing anything that is given to them on the subject of bees, I think they will print anything—some newspapers will. Perhaps there are some here that will remember two or three months ago the Chicago Record-Herald had an article stating that a bee-keeper in Iowa who had keept bees for a number of years died, and his bees commenced to sulk, they would work no longer, and they had trouble keeping them away from his remains—they followed him to the grave, they had such an attachment for him. So if a newspaper will print anything like that, you can get them to print anything, can't you?

Mr. Abbott—It seems to me very clear that here is a plan of advertising that is almost unlimited. I have had a good deal of experience. I am a newspaper man myself, and I haven't an ax to grind and I am not scared at advertising. But let me tell you about a class of advertising that is done all over this country that you have read and did not know it. There is a woman who writes from some place in Kentucky, that signs her name "Kentuckian" mostly. She is employd by the Sapolio people, and the Pearline people, and the borax people, and several other people, and she writes home articles for papers. Her articles appear all over the United States in agricultural papers in the home department, and the only thing that is in them—for instance, she will tell how to clean carpets, and the only thing that smacks of an advertisement is that she gets in the name Sapolio once in a while. The borax trust have women employed in the same way. One writes from Emporia, Kans., to the home department of agricultural papers. She recommends borax for sore eyes, and boraic acid for all sorts of things. They try hard to "work" us. They "worked" my wife for a little while. She is better natured than I am. I eliminated the borax. I said, "some good disinfectant." I eliminated Pearline and said, "some good washing powder," and of course the articles stopped when I edited them, which was a good thing. It could just as well be honey as borax, and if General Manager France would arrange with a half dozen men like Dr. Miller and Mr. York and others that I can mention, to write the articles, they can be put into 99 out of 100 of the newspapers of the United States tomorrow, without any trouble at all. That will boost honey just as high as you want it before the public, and it will double the demand for honey all over this country in a little while. I wish the National Association would just take up that kind of thing and spend two or three thousand dollars lying in the treasury doing nothing in advertising honey all over the United States.

Dr. Miller—I want to endorse what Mr. Abbott has said, and then add this: The material that we would want to go before the public, there would be in it no trick. This is no "Sapolio" business. It is all square, honest work. Here is information that the public needs, it is for their benefit. We can get it in. I believe, further, that instead of having me do a part of it and Mr. France, and so on in that way, if this work has been done for the horticulturists, the experience that has been gained in doing that work will be of immense advantage in our work. But, as I said before, I have not examined carefully the material of which this man is made. If he is put together so that he can get things into papers, I would rather a good deal get some man who is expert at it to do it than to have us bunglers go at it. It would be worth a great deal more. I don't know him at all, and I don't know what commission he may get on what he can do, but if he or his concern to which he is attached can do the work, I believe it would do us a lot of good to pay something for it.

Pres. York—I know Mr. Burdette a little bit, and anything he would prepare would be submitted to Mr. France or a committee designated to revise anything he might write. But I am satisfied that he can get things into papers that we could not at all, because he has been doing it.

Mr. Kimmey—I was surprised when Mr. Burdette came in today. I have known Mr. Burdette for a long time, but I did not know he had been engaged in the horticultural business. I did not know he knew Mr. York, nor that he was coming here. I also know something about the seed trade. Mr. York has told you that I am Secretary of the National Poultry Association, whose business it is to give a poultry show in Chicago. For every meeting I have been in the habit of employing some press agent. Last year I employed Mr. Burdette, and he is head and shoulders above any other men and women I have employed. I have a new contract, signed a few days ago, agreeing to pay him two or three hundred dollars for three weeks' work. You have all got articles in your papers. We worked it up. We have them in nearly all the papers. It is an educational business. You don't need to hide a single thing when we talk about honey. We don't have to misrepresent a single thing. Without knowing that Mr. Burdette was at all to blame for it, or had anything

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to do with it, I know that the demand for seeds, bulbs and such as he mentioned last season was phenomenally large in Chicago. Every seed-house was burdened with work, and they did not have to burn a single pound of their seed nor to throw away a single one of their shrubs. It is a matter of notoriety, known throughout Chicago. I am glad it happened so that I could give this testimony in favor of Mr. York's project, and of Mr. Burdette's idea. As to just what persons shall do this work, I have no doubt—pardon me for saying it—that I could write an article just as well as Mr. Burdette can, but I have other things to attend to. I think Dr. Miller could write better about honey than Mr. Burdette. But I think to entrust the matter to a man like Mr. Burdette, who will bore Dr. Miller for facts, and go to Mr. Hutchinson and Mr. York, and then sit down and trim it all over, will do more effectual work than you can if you scatter your energies.

Mr. Whitney—I feel great interest in this matter of the education of the public with regard to the value of honey, and it is my opinion that there is nothing that we can say in a public way as to the use of honey that will not do the bee-keeper good. I have had a little experience up at our place. Our local editor there wanted to know if I would not write something for the local paper, and I wrote a few articles, and they appeared every week for 5 or 6 weeks, and people became very much interested in bees and honey, and since then I have not asked a single person to buy any honey; I could sell more of it than I can possibly produce or get. I know that publicity is a good thing for honey, if you talk right, and tell the truth.

Mr. Burdette—Some misapprehension seems to exist as to the nature of the articles that we sent out. It was not our purpose in doing this horticultural work to trick anybody. We simply filled a legitimate demand for horticultural information.

Mr. Todd—How to do.

Mr. Burdette—Yes, exactly. For one thing, we had the experience of Mr. Keeley, Managing Editor of the Chicago Tribune, who once conducted a department of gardening on that paper, and he told us it was astonishing the number of people who were absolutely ignorant of the first principles of gardening—people who would buy bulbs and plant them upside down; didn't know how to plant seed or anything of that sort. The papers all seemed to know that there is a great deal of interest in that sort of thing, and were glad to get the information that we furnished, and they understood thoroughly that we furnished it, and why we furnished it. We had a large number of scientists on the National Council—Professor Tracy, of the Department in Washington; Professor Taft, of the Michigan Agricultural Experiment Station, and Professor Irish, of Shaw's Gardens, in St. Louis. I believe there is also a great deal of interest in bees all over the country, and in honey, and that the papers would be willing to print whatever we might send out about bees and honey, provided it was written in the right way. Of course we could not send out what was purely advertising, saying people ought to buy honey. Papers could not print that unless we paid them for it; but I have gone on the assumption that there is a great deal of information about the use of honey, and facts about bees, that the public would be glad to know, and the papers would be glad to print, and the effect of those articles would be to interest the public in bees and in honey, and the indirect effect would be to increase the sale of honey. Of course, the only thing projected here is an experimental series to see just exactly what kind of articles can be prepared along that line, and what effect those articles will have. I think it is worth trying. Don't you think that there is material for articles on the use of honey and facts about bees?

Mr. Todd—Most people use honey simply raw. You might have one article acceptable about honey, but you would not have a series which would give it the force of cumulative advertising.

Dr. Bohrer—what was Mr. Burdette's question?

Mr. Burdette—I was asking if there was not material for articles of that sort. I am not very well acquainted with bee-keeping or with honey. I don't know what material there may be.

Mr. Todd—How many different ways could honey be served up?

Mr. Abbott—I want to say, without any egotism, that I can sit down here in an hour's time and write an article on honey that will go into any paper in the United States. There isn't a paper in the United States that would not publish it.

Mr. Todd—And a second one?

Mr. Abbott—Yes, sir, and a third one, and I can write a fourth one that any paper in the United States will print, and pay me money for doing it, and I can write a fifth one that the papers will take and pay me for it, and there won't be any nonsense in it. There won't be any bees following their master to the grave or anything of that kind. But you need not talk about anybody that does not know the honey-business from A to Z and has not been in it 25 years, as I have, because they can't do it. You don't have to tell people to buy honey. You have to tell people to eat honey, and then if they haven't got the honey they will come to you and buy it.

Dr. Bohrer—Isn't it also important, and of greater importance at this time than anything else, to satisfy the people that what they are getting is absolutely pure?

Mr. Abbott—Yes, sir. I could write on the purity and the probability of being adulterated. There is no doubt about the facts. The papers will publish that.

Pres. York—I do not think I could write many articles on photography, as Mr. Todd could do, but I think I could write a few articles on honey.

Mr. Clarke—Probably I might give an illustration in a small way of what people want to know about honey. I have conducted a bee-department in an agricultural paper for 7 years in Iowa. I have undertaken to answer any question anybody asks me pertaining to bees or honey, and I do not know exactly the number of inquiries that I have had in 7 years, but I think it is over 7000 in regard to bees and honey.

Mr. France—I would like to get the expression of the honey-producers on this subject. They are interested in the disposition of their product. Various ways have ben suggested, and this means of advertising is a good one. There was a fund transferred over to the National Association, and it has been waiting for effective work until we could get a system and something that would give satisfaction. To get a committee that would be satisfactory to the producers and to those who had transferred this fund to the National has been a difficult matter. That, I think, is about through with, and the next question came up wherein or how we shall begin the use of that fund to advertise and create a demand for more honey. This proposition that has just now been discussed will be one of the first that that committee will consider. Two at least of the three I know are favorable to starting such a move in the near future. Other ways have been suggested, and the more that you can suggest to this committee the better, and save your time for the convention. I believe one of the things we have got to employ, as has been done in other lines, is telling the usefulness of honey to the public. When they realize the value of it as a food, then enlighten, in some way, the public, that when they are buying honey they are getting Nature's purest wholesome sweet for their stomachs, and you have established a demand for honey.

Dr. Bohrer—And that what they will buy will be honey.

Mr. France—Yes, sir.

Mr. Burdette—I want to say I do not know anything about honey. I would not attempt to write these articles myself. The horticultural articles were all of them prepared under the direction of experts. Most of them were prepared by Professor Irish, who is in charge of Shaw's Gardens at St. Louis, one of the largest botanical gardens in the country, and they were sent to me. I simply took them—most of them were too long—I made it a rule not to send out any article of over 300 words—divided them into appropriate lengths, and re-wrote them so as to get the "feature," as we call it in the newspaper business, at the top; simply put them into shape so that the newspaper editors would not have to revise them; and that is all I did, simply to distribute these things to the newspapers in the proper form. As has been stated here, they should be written first by men who know honey; that is, the material should be supplied by those men, and all I could attempt to do would be to put that material into the form for the newspapers. There are a good many things to consider when you do that. I am a newspaper man. I think I know the way to do that, although I don't know anything about honey. That is all that I would do, and the estimate I made for this experimental work was simply putting it into shape and send-

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ing to the newspapers. For preparing material it would be different.

Mr. Hutchinson—Speaking of writing some articles to do some good to sell honey, I have some honey of my own this year and I wrote an advertisement advertising that honey. I tried to write it in such a way that a man reading that advertisement would want some of that honey. A man wrote me, "I have been tasting that honey ever since I read that advertisement." That is the kind of an article we want to write for the papers; when a man reads the article he wants to go right out and get some honey and try it.

Mr. Taylor—There is a distinction I think we ought to make in this matter of advertising. That is, the difference between advertising a person and advertising a product. Now Mr. Hutchinson sold his honey because he advertised himself; he advertised the fact that he had honey to sell. It was not because he gave any new information about honey that enabled him to sell. It was because he advertised himself.

Pres. York—Mr. Hutchinson said the man was tasting the honey all the time, and not tasting Mr. Hutchinson!

Mr. Taylor—Because he had a good deal of faith in Mr. Hutchinson, and knew any honey he extracted of course would be extra-good.

Mr. Chapman—I would like to call attention to a fact that is really before the meeting here. I see by the newspapers that one of the women's clubs here is discussing the reading of Dickens' works because he always refers to eating and drinking, claiming that the references to eating and drinking cause a great many people to go out and overeat and drink. It is along this line that our friends refer to—discussing honey, referring to the fact that it is one of the oldest foods known in the world, that it has come down through the ages to be a blessing to the people, that people with delicate stomachs who can not eat sugar or syrup can still eat honey; such statements will set a person thinking that he hasn't had any honey for a good while, that he would like some now, and he goes out and buys it.

Mr. Arnd—I was a contributor originally to the fund for advertising. I move that the Chicago Northwestern Bee-Keepers' Association recommend to the National that they use the fund mentioned by Mr. France, in just such advertising as we have spoken of today.

The motion was seconded.

Pres. York—I ought to say, perhaps, before we take a vote on this, that the experiment will not cost over about $300 to make the first engagement. It is moved and seconded that we recommend to the National, or to the Directors, that the money in their hands from the Honey-Producers' League be used in such work as has been outlined here. Of course there may be other methods, used also.

The motion was put and carried.

Foul-Broody Colony Defending Itself.

"Is it a fact that a foul-broody colony defends itself against robbers with less vigor that a healthy one of corresponding strength."

Mr. Taylor—Yes, I think so. It makes them have less heart, don't care whether school keeps or not; and, more than that, there is a scent about the hive that I think attracts robber-bees. Don't you think so, Mr. France?

Mr. France—Yes, sir.

Mr. Taylor—If there is a colony that has any foul brood about it, you will notice the robber-bees are prowling around there. I don't know whether it is the scent, or whether they appreciate that the defenders are not very anxious to defend their hives. Any way, you have got to look out if you have a colony of foul brood.

Mr. France—I think Mr. Taylor has pretty nearly covered the ground. The bees seem to lack the defensive, and the odor also seems to have a tendency to warn the outside bees that there is something wrong.

Brood-Chamber in Winter.

"For wintering on the summer stands in 10-frame Langstroth hives, is it advisable to contract the brood-chamber with tight-fitting division-boards?"

Members—No.

Mr. France—That depends upon your location. The farther north you are the more you need to contract them. You do not need any of that if you are down in Missouri; and if you go into the extreme northern part of Wisconsin where the thermometer goes to 40 below, you have other conditions. There are other conditions for an outdoor winter. I want a good, vigorous queen in the fall, and more than honey enough.

Mr. Wilcox—I would say from what experience I have had in outdoor wintering that I would contract a little, but more especially put on another story, use the second story for outdoor wintering, always with 4 or 5 combs in, and of course a division-board at each side and packing behind. I think the second story is the most important part of outdoor wintering.

Mr. Jones—I would say it depends not alone upon the locality but upon the strength of the colony. With a really good young colony with plenty of bees in there, there would perhaps be no necessity of it, and perhaps no advantage; but a small colony, I say by all means to contract. I have wintered bees in Wisconsin outdoors. Up there I do not think there would be any show of their wintering if they had not been contracted.

Mr. Chapman—I believe 2-frame division-boards, in our locality of Chicago, are of great benefit to the bees. Mr. Wright, at one time attending our convention, said if you would take a super of dry extracting combs and place it underneath the hive-body where you wished to winter them, it would be far better for the bees. I have practiced that now for 6 years; placed it underneath, put a super the section-size on top of either excelsior or ground cork, and I have never lost a colony of bees. I did not lose them 3 years ago when so many were lost here, and I have my bees right on the roof of the house, where they are exposed to all the winds and weather that can be, and I think I have struck an excellent plan.

Points in Judging Bees.

"In judging Italian bees at fairs, what points should be taken into consideration?"

Mr. Wilcox—I did not ask that question, but that is just the information I want. I may say what I have done, but I don't know what I ought to do. I have considered as of first importance uniformity of markings. This, of course, speaks of Italian bees. Uniformity of markings of the worker-bees is my standard for purity. If all the bees are alike—size, color and shape—I consider it proof positive that they are pure-bred. It is the only standard I have, absolutely, in judging bees. If I had them in my apiary where I could observe their actions, then I would have additional standards, but we can not have that at the shows, consequently we must judge from the looks only. Size and uniformity of markings are the principal things. Size, however, is an uncertain standard, because the more agitation, excitement and jarring you give them the larger they will be. You go in the morning and look at the bees on exhibition and they are small, and in the afternoon they are much larger. The fact is, they have gorged themselves with honey.? So you can not depend very much upon the size, but you can upon the markings.

Mr. Jones—Wouldn't it be a little advantage for a person to get them in show condition, if he knew when the judge was coming around?

Mr. Wilcox—If size were important he could, but size is not a very important point.

Mr. Hutchinson—Uniformity is all you can go by. You can't tell by the size. If they are uniform in marking that is the best we can do.

Foul Brood Legislation.

Dr. Bohrer—It may be a mere matter of criticism upon my part to call the attention of this Association to the matter of foul-brood legislation. I understand that here in Illinois you have a law for the use of the bee-keepers of the State, but that does not clothe a bee-inspector with authority to go upon the premises of a man who may have foul brood, except at his will and pleasure. I don't know if you want to get the legislation to take cognizance of a matter of that kind. Find out and make a report of such persons as refuse flatly and absolutely to allow a bee-inspector to cure the disease or stamp it out, destroy his bees or make an effort to get them cured. If you can gather sufficient evidence, even perhaps one or two cases of that kind, where men have refused, then go to some influential member of the legislature, and some man who knows something about the business, if you can find one. We succeeded in our State in finding a man who knew something about bees and the wants of the bee-keepers. He laid it before the legislature. They were ready to hear it, when they found it was about to destroy an industry—an infant industry but growing rapidly—and we

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got a law. I believe if you can go before your legislatures with something of that kind and send men who understand what foul brood means, the destruction that it will bring to the industry in the State if not stamped out—and there is no question about that, it is unquestionably spreading, and where there is any carelessness tolerated it will continue to spread—if you will lay the matter before the legislature in that shape, get an influential member that will work, you may get a foul-brood law through that will clothe you with authority to stamp out the disease. I have been twice to our State legislature and have learned something about the way these things are managed, and it depends largely upon whose hands you get it into.

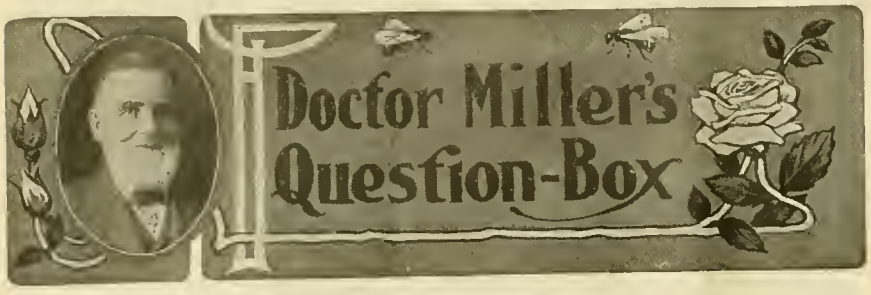
GETTING BETTER CONVENTIONS AND ATTENDANCE.

"How shall we have a big attendance and a good meeting next year?"

Mr. Taylor—Advertise.

Mr. Jones—Everybody come again and bring one with them.

Pres. York—I think that is a pretty good idea, and perhaps it could be pushed a little more in the various bee-papers. Is there anything further? If not, we will stand adjourned until the call of the Executive Committee next year.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Changing from Closed-End to Hoffman or Miller Style of Frame

We became interested in bees about three years ago, and now have twenty colonies in Danzenbaker hives. We want to increase to fifty or more colonies. So far we have no reason to regret our selection of the Danzenbaker hive, but we sometimes think there are other brood-frames that would suit us better. Having always to cut or break the frames apart is considered a drawback, and it occurred to us that we would fit up our next hives with Hoffman metal-spaced frames, or Miller frames, of the same depth as the Danzenbaker frames. In this way we would be able to judge which is preferable, as we have had no experience with any but the Danzenbaker frames.

The only change in the Danzenbaker body would be the cutting of the rabbet to receive the end of the Hoffman or Miller frame.

After our trial of the other frames, the hives we now have could be easily changed to suit the Hoffman or Miller frames, or should we decide to continue with the Danzenbaker frames it would only be necessary to fill out the rabbet cut to receive the hanging frames.

Our preference is to run for comb honey, and so far we consider the Danzenbaker super equal to any in use, but we are unable to decide as to the brood-frames.
MISSOURI.

Answer.—Your scheme is feasible, but it still leaves undecided the question as to the difference between the two depths of frames. Perhaps, however, you do not care for this.

Management of Swarms

On May 17, hive No. 5 cast a very heavy swarm. It was hived on foundation starters and set in place of hive No. 5 on the old stand, No. 5 being removed to a stand several feet away. Today (May 28) hive No. 5 cast another swarm. I caught the queen, clipped her wings, and put her and the swarm back into hive No. 5, from whence they came. Then I went through hive No. 5 and cut out four or five queen-cells, or what I thought were queen-cells. Now I am told by a bee-keeper that I should not have clipped the queen's wings. He says that in all probability the queen was not mated. Did I do right? If the queen is not mated, what shall I do? There is a great deal of unsealed brood in the hive from which the bees could rear a queen, but would they do so with the clipped queen in the hive? It does not seem reasonable to me that this young queen did not mate before the swarm settled. Please put me straight. WESTERN IOWA.

Answer.—When No. 5 first swarmed, you set the swarm on the old stand. Orthodox, so far. Then, at about the same time, you set the old hive on a new stand some feet away. Heterodox. Please never do that again—well, don't do it again unless you want the bees to swarm again. Set the old hive close beside the new one, and *a week later* move the old one some feet away. That will throw all the flying force of the old colony into the swarm, weakening the old colony so much at the right time that it will give up all thought of swarming. But you moved the old colony to a new stand at once, and eleven days later they had gained so much in strength that they felt competent to swarm, and it was the orthodox thing for them to swarm with the first virgin that emerged. Then you clipped the queen that came out with the afterswarm. Heterodox. She may have been fertilized, and she may not; but in any case you were running a big risk in clipping her. You returned swarm and destroyed all queen-cells. Orthodox. Then you found unsealed brood, lots of it, in the hive.

Now, look here, I'm willing to try to help you out in any of your misdemeanors, but when you get the bees to doing unorthodox things, that puts me out. After the old queen had left the hive eleven days, those bees had no business to have a single cell of unsealed brood, to say nothing of lots of it. The whole thing looks abnormal—heterodox. Where did that brood come from? Did a laying queen from some other colony get into the hive by some freakish performance after the hive was moved to its new stand? At any rate, there must have been a laying queen in the hive after the swarm issued, and if that's the queen you clipped, then all right—unless the bees swarm again. At any rate, with plenty of unsealed brood in the hive there is no immediate danger.

I don't know enough to tell you just how things are, but so long as brood continues to be sealed as worker-brood you needn't worry. If brood in worker-cells is sealed so it looks like little marbles instead of having a flat surface, then you must kill the queen and treat the colony as a queenless one.

I wish you'd tell us how it comes out.

Managing Nuclei, Etc.

1. I have ordered some nuclei which will be here about June 1. How shall I manage them for the best result? I never did any work of that kind.

2. Early in the spring of 1906 I had a nice, large swarm come out, and I hived them in a good hive. They worked well, and in about 4 or 5 weeks they sent out a swarm. On examining them, after a few days, I saw no bees in my first hive. The comb was nice and white and the hive was full of it, but the bees were gone. They had been carrying in pollen far ahead of any other bees I had. What was the matter? KENTUCKY.

Answers.—1. Put the frames of the nucleus in a full-sized hive in the middle of the hive, in the same relative order in which they were in the nucleus. Then fill out the hive at each side with frames that are entirely filled with foundation. Look out sharply for the matter of stores. The probability is that there was not a very big lot of honey in the frames of the nucleus, for it is not best to ship too heavy combs. If you have combs of honey, it will probably be a good thing to give 2 of them to the nucleus, one on each side pretty close to the brood.

2. Hard to say. The young queen may have been lost on her wedding flight, but there probably was some other trouble besides that, and I don't know what it was.

Rearing Queens for an Amateur

1. Not long ago I wrote you asking if good queens could be reared in a queenless colony, and you said, "Yes, if rightly managed;" but you did not say how, and how to do it was what interested me. Again, I asked if another plan would work. You said probably, but would advise me to take a little more trouble and have the best queens obtainable. This is what I would do if I knew how, but here again I was left in the dark. It was not curiosity that caused me to ask the questions, but because I did not know better. Perhaps I did not make my meaning plain.

2. Can good queens be reared in a queenless colony?

3. If so, how?

4. Is there a better way of rearing queens for an amateur without queen-rearing tools, when queens are wanted before the swarming season? If so, please explain.

5. Would you advise getting a queen-rearing outfit for one who would need 10 or 15 queens a year?
IOWA.

Answers.—1. One of the unfortunate things in attempting to answer questions in this department is that it is not easy sometimes to know by the question what is in the mind of the questioner. Don't you think it's all that ought to be required of me if I answer the questions that are asked?

2. Yes.

3. Remove a queen from a colony of best stock in the height of the season, and the bees will of themselves rear one or more good queens.

4. If you mean a better way than starting cells in a queenless colony, I think not.

5. No.

There, I've answered your questions, haven't I? But I may as well own up that I've purposely answered the mere letter of your questions, without paying much attention to the spirit. I always do better than that, and answer the spirit of the questions, as nearly as I can guess what the spirit is, and so

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I'll do as well by you now if you forgive the answers I have made.

You don't need any special queen-rearing outfit for 10 queens a year, nor for 100. I'll tell you how you can rear just as good queens as can be reared from your stock, with no other outfit than what every bee-keeper is supposed to have on hand:

Take a frame out of the hive containing your best queen, and put in its place a frame with a starter an inch or so deep. A week or so later you will find the bees have filled the frame ¾ full, more or less, with new comb, with larvæ well advanced down to eggs around the outside edge. Trim off that outer edge that contains only eggs, leaving the larvæ. It isn't easy to be exact about this, and it isn't very particular, only don't cut away any of the larvæ; no harm if you leave some of the eggs. Indeed it is not absolutely necessary to cut off any of the comb; only that outer margin is in the bees' way. Now put your prepared comb in the middle of a strong colony from which you have removed the queen, and in 9 or 10 days cut out the cells and give them to nuclei. In about 2 weeks later you ought to find most of them changed into laying queens. You see, it isn't a very complicated matter, and needs no special outfit.

You note that I give no date as to when you are to do these things. I can't, because it may be 3 weeks later one year than another. But be sure not to begin too early. In your locality, if you were to begin in March you wouldn't get one good queen out of 20. Figure so as to give the brood to the queenless colony when bees are working prosperously in the fields. In your locality that probably means that the bees should not start to build queen-cells until white clover begins to yield, or any time later; and of course the empty frame must be given to your best colony a week or so earlier.

Now if I've failed to answer just what you want to know, don't hesitate to ask again.

Methods of Filling T-Supers

On page 995 (1906) is a discussion of the T-super by you and Frank H. Drexel, both favoring that kind of super. Like Mr. Drexel, I have blamed the manufacturers for forcing and keeping them out of the market, which I believe to be that the section-holder can be got up a little cheaper, yet when I send them a sample of mine, they get them up for the same price. The kind I use were gotten up by Elvin Armstrong over 25 years ago. He got up a hive and T-super which was spoken well of at that time by the American Bee Journal. Soon after that I learned that he had gone out of the business. About 10 years ago, I wanted to get some more of those supers, and sent to a firm for some T-supers, and after an aggravating length of time they sent me the section-holder, and I have not forgiven them for it to this day. I never put them on hives the second time.

I then sent a sample of the Armstrong to a firm in Minneapolis. That firm changed hands before I wanted more, but the pattern with the change was lost, so next I sent to another firm, and I suppose they have the pattern yet. In all the catalogs I have received for years I looked for the Armstrong T-super, but in all I found the immutable section-holder, with ever and anon words of some one that they don't like the T-super for some reasons which I think do not exist in the Armstrong super. And I know some of the objections which you urge in yours do not exist in mine. One of these is that they are liable to fall to pieces if you are not careful. Now, I don't care who doesn't use them, or who dislikes them, but I have paid out $1.00 in expressage besides losing 2 supers to get what I wanted. I suppose you and Mr. Drexel use the same kind of supers and both bank on the short time it takes you to fill them, but time has cut no figure with me, as I have but few bees and plenty of time on my hands, but, all things considered, I don't think you can distance me much.

1. I was amused by your direction how to make a super-filler, page 140, of "Forty Years Among the Bees." A queer super-filler, thought I. Miss Wilson page 247, is the super-filler, and your super-filler is the super. It seemed to me as I read it, your super-filler was filled, and its contents to be dumped into the super.

2. It seems from you and Mr. Drexel you fill the super crosswise, while I fill the other way, and I think in the long run I can do the work about as quickly as you. You fold the sections and stack them on a board. You must take some extra time to do that or you will have a scatterment of them, and may have occasionally anyway. I fold by a section-press different from yours, but perhaps no better, and I may pitch them into a bushel basket and save time over you. Sitting as Miss Wilson does, having the starter put in, I can put it into the super quicker than she can stack the empty supers on a board. Putting the far left-hand corner section in and adjusting the tin to it, I take the next, and so on until I have the far side filled. Putting the separator in, I can put the next row in nearly as fast as I can pick them up and lay them down. It appears that you put the separators in after you have all the sections in. How you get them in except one at a time, I don't know, but perhaps you do.

3. You claim that you have seen every kind of a T-super but I feel satisfied that you have never seen my kind or you would never object to some things, such as its falling to pieces. The only way of getting it to pieces is to tear it to pieces. I could turn it either side up as I use starters only in sections.

As to section-holders, the only fault I ever raised against them was that the bees would glue them fast so that I had to tear them to pieces to get them out. I did not have them long enough to warp. How those who used them kept the bees from sticking them fast, I don't know, and I don't care to know, for I don't want them.

I had a letter from Elvin Armstrong last fall from Colorado, saying he had improved his super and was going to get several thousand of them cut out by some factory and would come in when he had sold his honey. He had several thousand pounds. He said he would bring you and me a super, and if you did not say it was the best, he would be surprised. IOWA.

Answers.—1. You are quite right when you say "Miss Wilson is the super-filler," and quite wrong when you say, "your super-filler is the super." The same word, as you well know, may mean two different things. Looking in the dictionary, I find the definition of the word "filler" in part as follows: "One who or that which fills or is used for filling. Specifically: (1) A funnel." If a boy were filling a barrel with water, using a funnel for the purpose, you would say the boy is the filler, and at the same time you would hardly dispute the dictionary that the funnel is also a filler. So while Miss Wilson was the filler, was not the implement "used for filling" also a filler? When you say that my super-filler is a super, you evidently misunderstand the whole affair. Please turn to page 148 of the book, and you will see that the super-filler is not a super at all—doesn't in the least look like a super, as you will see by the picture of a super-filler on page 189.

2. It takes less time to pitch sections in a basket than to put them in a straight pile. You are quite right in that. But please note that it takes less time to pick them off the pile when putting in foundation than it does to pick them out of the basket, because when they are piled they are always standing the same side up, always in the right position to go to the foundation-fastener, but in the basket they are all sides up, and you must take time to put them in the right position. Occasionally we may use the basket method, but we think the other way better in the long run. We've tried both ways; I wonder if you have. We've also tried putting the sections into the super your way, which, if I underatand correctly, is to put the T-tins in place before all the sections are in, so that most of the sections must be put in between the tins, and that takes ever so much more time than to slip each tin under the sections after the sections are in. But to do this easily the super-filler is essential.

3. If I ever claimed that I had seen every kind of T-super it was a wild claim, certainly. There may be a dozen kinds that I have never heard of. Still, I've seen quite a few different supers.

Reports and Experiences

More About Texas Sumac.

Referring again to the kind of sumac spoken of in my article on page 279, I will say that I do not know enough of botany to enable me to give a correct description of this shrub; but it is a large, rather bushy kind, seldom having many branches low down on the main body. The leaves are oblong, pointed, smooth, dark green, branching out from a common stem. The berries, when ripe, are a bright scarlet color, and hang, or rather stand, on a short, stiff bunch of stems. It begins to open its bloom about July 25, seldom varying more than a few days. The period of bloom extends, as a rule, to the middle of August. The flower buds form at the extremities of the season's growth of new wood, and are often as large as a teacup. They seem to be altogether composed of a series of small petals, each containing a nectar cup or gland. Bees alight on the bunch and work over the entire flower. It is a composite plant, yielding both pollen and honey in great plenty. The pollen is a fine creamy-yellow color, and during the first few days of its blooming season the bees seem to gather an immense quantity of it, but later they gather only honey.

I am sending some of the leaves and berries. They taste very acid, but that is not strange, for, as you know, all of this species are tannic-acid plants.

This is about all that I am able to tell about it. The natural habitat of this shrub is West Texas, though it extends to a part of the Central Texas counties. I have never met with it in Southwest Texas, though a few of this kind grew near my old home in Bee county.

The honey from it is a very light yellow or pale straw color, very thick and heavy, and fine flavored. I had a sample at San Antonio. It is, according to my experience, a most certain yielder, and if we had even one more plant its equal bee-keeping would be a very profitable business here. As it is, we get an average of 50 pounds to the strong colony, though I have managed to get 210 pounds from a few choice colonies, and I feel sure that I will be able to get a heavy yield the coming season.

I have a new system by which I am able to get the most powerful and efficient working force. This contemplates the use of two queens in each hive, though not used in the manner lately described by some writers. My non-swarming board is used for the purpose. As I stated, by its use last year I was enabled to get 210 pounds from some few colonies. I think its possibilities are very great along that line, but I am not trying to urge its use; I know that I have a good thing for my own use, at least. J. E. CHAMBERS.

Concho Co., Tex.

[The leaves sent differ greatly from those of the sumac common in the North, being only 1¼ inches in length and scarcely ⅜ in width.

By all means tell us about your plan of working two queens in the same colony.—EDITOR.]

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The Caucasian Bees

I was so interested in E. A. Morgan's experience, on page 483, that I wish to say a word too.

I have been loth to say anything in praise of Caucasian bees, for so many have condemned them who have had no experience with the true Caucasian that I thought it would be powder burned to no effect. I am convinced that when the Caucasian bees have been with us long enough to know them, there will be a large number, who, at this time condemn them, will be converted to our side.

I got my first queens from the Government, and soon after I began to import direct from the Caucasus, and now have as fine a lot of Caucasian breeders as there are in this country. I have always prided my yard as being the most gentle bees to be found. But when I handle the Caucasian then I *know* they are the gentlest bees to be found on this continent. Instead of picking up the smoker to drive them back I simply blow on them and they leave as if smoke were used. If I wish to show them at any time of night they act just the same as in the daytime. The light doesn't seem to affect them in the least; no crawling on the hands as with almost any other race. I find them to be the best of honey-gatherers, cap their comb snowy white, and their sections are as clear of propolis as the old blacks. They enter the sections readily, and I have less burr-combs than with any other kind of bees.

I am trying a cross between the Italian and Caucasian, using the latter as the mother, and I have the gentlest and the finest yellow bees that can be found. If they gather honey as fast as they breed they will be all I ask. They cannot help but winter, for I find that the more quiet bees are the better they will winter. I wintered 2-frame nuclei in the cellar, and they came out without a spot in the hive. I am sure that all who will try the gray Caucasians will find them just as has been stated by those who know, and not as by those who "don't know." A. D. D. Wood.

Ingham Co., Mich., June 8.

Discouraging Outlook

Bees are in as poor a condition just now as I have ever known them to be at this time of the year in this locality. Last fall the honey-flow was almost entirely limited to the juices of fruit and grapes, so that the winter stores were of the poorest kind. But on account of the mildness of the winter the bees got through fairly well; and in the fine, mild weather during the whole month of March, they built up well, and gave promise of fine results this summer. But, alas! the cold, blustery weather during all of April and half of May played havoc with many of the most promising colonies. Much of the brood chilled and starved. Bloom containing nectar is now plentiful, but the field-laborers are too few to collect much surplus. On the whole, the outlook for bee-men is not very bright in this locality.

H. A. Schoppenhorst.

Marthasville, Mo., May 24.

Successful Wintering of Bees

In reading the American Bee Journal this week it seems that we Eastern bee-keepers are in the "cold swim" with our Central and Western brothers. This is the coldest April and May that I remember, but, with it all, my bees that wintered well are in fine condition. On May 18 I had one of the largest swarms I ever hived; it filled a 10-frame hive practically full. Now I think the secret of my bees being in the condition they are, is not from feeding in the spring and fall, but because each was a strong, heavy colony in the fall, and wintered on 50 pounds of thoroughly ripened honey.

I put into winter quarters last fall 28 colonies, but during the long, cold winter they were taken with dysentery and I lost 6 colonies through that cause. Now I think I have found two reasons for the same trouble in this location—one is from honey that was gathered late in the fall (and our fall crop is very heavy here about every 3 years in 5); and also from some of the hives becoming damp, as that was part of the time that they were under snow. I notice in the early spring, in going over my bees, that the hives were pretty damp. The dampness was not due to sweat inside.

My way of wintering is this: I am a great believer in newspaper for warmth, which I used as packing for supers over the comb honey over the Hill's device, and after putting the lid on I laid quite a number of newspapers over the top of hives; and hive-covers made of heavy duck canvas thoroughly dipped in pure boiled linseed oil thoroughly tied down over the whole hive, and then a sheet-tin frame laid on top of the cover with a weight on to keep the water from the top of the hive.

I can box, on a short October day, thoroughly, 25 hives for winter, and barring dysentery, which they had this year, I find that 99 percent with heavy stores will go through in any winter, which can't be worse than the past one. In all of the colonies I lost there was at least from 15 to 35 pounds of stores left. I have 16 boxes now with 2 and 3 supers for comb honey, filling fast. The rest are for extracted. I have at least 35 pounds of apple-blossom honey in one hive—the first that I ever have succeeded in getting, and I tell you it is fine. When I take it off I may forward a box to the editor.

My apiary is located in one of the largest white clover belts in Chester Co., Pa. Last year I had one colony that I run only for honey in sections, and it carried in 176 pounds of strictly white clover; all the others I run for increase, and reached to the above number of colonies from 8 stored as described for wintering. Geo. M. Steele.

Philadelphia, Pa,, May 25.

Cold and Backward Season

It is very cold and backward here. I have been feeding my bees for some time, which makes them very strong and active in spite of the cold weather I have had 8 swarms. I put them on full empty combs and feed them every day. Alfalfa will be out in bloom in about 2 weeks, and then I look for a good honey-flow. The sweet clover is looking fine, and I am preparing for a good crop unless it stays cold all summer. E. S. Armstrong.

Olathe, Colo., May 30.

Very Backward Season

The season has been very backward here. White clover is as yet not more than ¼ of a crop. Raspberry and blackberry are in bloom, the former being nearly over.

Centralia, Mo., June 4. J. K. Boyd, Sr.

Feeding to Keep from Starving

I am feeding my bees to keep them from starving, although the orchard has been white with bloom. The weather is too wet and cold.

Peotone, Ill., June 1. C. Schrier.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

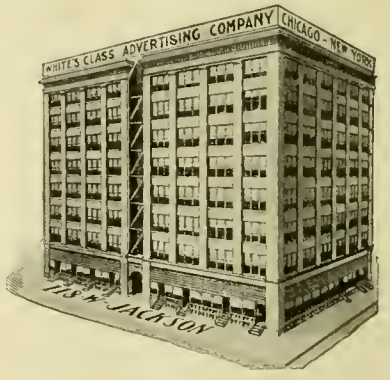
Agricultural Exhibit in Chicago

Here is something different, yet practical—a permanent exhibition of things agricultural. The idea is to have on daily free exhibition almost anything from husking mitts to manure spreaders. This practical idea has been worked out and is now an assured fact.

The exhibition will be held in the commodious new quarters recently acquired by White's Class Advertising Co., 118 W. Jackson Boulevard, Chicago. This company, of which Mr. Frank B. White is President, occupies the entire top floor of the "Electrical Building," corner Jackson Boulevard and Desplaines Street.

The exhibition hall is 88 feet by 50 feet, in the eastern half of the floor. It is light, airy, and very pleasant. Each exhibit will be enclosed by a neat metal railing, and be kept in show condition for daily inspection. A special attendant will have oversight of the articles, and will devote his entire attention to explaining their merits and uses, to visitors and purchasers.

This is an excellent opportunity for manufacturers who advertise direct to consumers, yet sell through dealers throughout the West. Chicago is a great trading center, and many



excursions daily bring great crowds of pleasure-seekers, dealers and business-men from all parts of the Ohio, Missouri and Mississippi Valleys. If they know of this exhibition many will visit it, learn the good points of the articles they are interested in, and make arrangements for purchase.

Being thus represented also saves manufacturers the expenses of a Chicago office and a special salaried representative.

The sizes of spaces run in multiples of 5 square feet, from 5x5 up to 10x20 or more, as desired.

An attractive folder entitled, "Would You Like to Have Your Goods on Display in Chicago at a Very Low Cost?" will be mailed free by White's Class Advertising Co., to any one. It has a map of Chicago's business section, with railroad depots, hotels, prominent clubs, elevated railroads, etc. It also shows a large ground-plan to scale of the Exhibition Hall, with full, detailed explanations.

Our readers, when in Chicago, are urged to visit this novel exhibition. They will be courteously received, and all questions answered by the gentleman in charge. Much that is profitable can be learned from the exhibits of new, novel, and practical articles that relate to agriculture.

American Bee Journal

Mr. Hasty's Afterthought

(Continued from page 536)

rect, no doubt. Why? On the whole it is a little surprising that as high as 42 percent should so disappear in 20 years. That's a bad, big rock on which efforts to breed the non-swarming bee are going to go to wreck. All'ce same, boys, breed that non-swarming bee. In choosing your "timber" to start with, choose some totally disinclined to swarm, if you can find such, and some not totally, but only *somewhat* disinclined. And with both sorts great care about vigor should be exercised all along—everything inclining to peter out like the above, to be thrown overboard at once.

The puzzle why colonies with 40 pounds of honey don't swarm seems to me to be an easy one. Abnormal. Normal colony uses up the honey rearing young bees, and don't have 40 pounds in swarming-time. Such bees dreadfully lethargic in disposition—else queen a poor one, I ween. Page 392.

Back Numbers One Cent a Copy.—We have quite a stock of numbers of the American Bee Journal running back for several years, which we will mail at one cent per copy so long as they last. Send as many cents as you wish copies. We have them complete since Jan. 1st of this year. If desired we will send all the back numbers of 1907 and to the end of the year for only 50 cents. First come first served.

Amerikanische Bienenzucht. by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

ITALIAN BEES FOR SALE

I have 50 colonies of all Italian J. L. Strong stock and Quirin's. All are in good condition in new Danzenbaker hives. Price $4.50 per colony f.o.b. here. Satisfaction guaranteed.

BERT GANDER,
23A4t PANORA, IOWA.

3-Banded Italian Queens

J. P. Moore or my own strain. My apiary is stocked with thousands of choice drones that are not kin to my breeding queens.

Queens, $1 each; dozen, $10

I guarantee satisfaction, and superior honey-gatherers. W. M. Parrish,
23Atf R. R. No. 8. LAWRENCE, KAN.

ITALIAN QUEENS

That are bred from the best stock this country can produce. Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6.50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen after June 1, $2.00 GEO. W. BARNES,
15A26t Box 349. Norwalk, Ohio.

"It is continuous advertising that impresses the public with the stability of a firm

PRACTICAL POULTRY BOOKS

For Sale or Free as Premiums

(postpaid) for sending New Subscribers to the Weekly American Bee Journal; or we will club them with the Bee Journal, as follows:

For each **NEW** yearly subscriber to the American Bee Journal (at $1.00) that is send us by an already paid-in-advance subscriber, we will allow 25c to apply on any poultry book in the list; or, for $1.10, we will mail to any one the Bee Journal a year and the last book mentioned in the list; for $1.35 the Bee Journal and any one of the 50c books; or, for $1.80 we will send the first book and the Bee Journal a year. Send all orders to the address as given below,

SUCCESSFUL POULTRY KEEPING Contains, we believe, more and better practical, reliable information on the subject of "Poultry for Profit" than any other book published. Gives the cream of established facts. Compiled by the editor of the RELIABLE POULTRY JOURNAL, who has given many years of careful study to the poultry business. 160 pages, nine by twelve inches, illustrated. Price $1.00

POULTRY HOUSES AND FIXTURES Shows plans of all styles of low-cost, practical and labor-saving houses, designs for inside fixtures, such as nest boxes, drop boards, etc., also roosting coops and coops for young chicks, and all necessary appliances for the poultry yard. It is the most valuable and up-to-date book of the kind that has been placed before the poultry public. Used as a text book at Cornell University. 96 pages, nine by twelve, ill. Price 50c.

ARTIFICIAL INCUBATING AND BROODING Solves all problems of artificial incubating and brooding. Tells how to obtain strong-germed, fertile eggs, how to operate incubators and brooders, grow the greatest percentage of chickens, etc. Results gained from practical experience. 96 pages, nine by twelve inches, illustrated. Price 50c.

THE CHICK BOOK Tells how to obtain good hatches under different conditions, with hens and with incubators; how to feed and care for chicks of all ages, with hens and in brooders; how to feed for breeders and for broilers and roasters; how to build coops; gives complete instruction in all work connected with successful chicken growing. 80 pages, nine by twelve inches, illustrated. Price 50c.

THE PLYMOUTH ROCKS Barred, Buff and White. Make money and save years of useless breeding by adopting the rules of mating followed by the most successful Plymouth Rock Breeders, with a chapter and chart on line breeding. Specialists describe clearly and concisely their methods of mating and breeding. Contains color plate of each variety. 110 pages, nine by twelve inches, illustrated. Price 50c.

EGGS AND EGG FARMS Is made up of articles from experienced and successful breeders, giving methods of housing, breeding, rearing and feeding to increase egg production. The lengthy chapters on pedigree breeding will be found invaluable to breeders of exhibition or utility fowls. 96 pages, nine by twelve inches, illustrated. Price 50c.

THE LEGHORNS The best illustrated standard of all varieties of the popular Leghorns. Mating schemes clearly described. You cannot afford to be without this valuable information. Color plate of S. C. White Leghorns. 78 pages, nine by twelve inches, illustrated. Price 50c.

ASIATICS A work on Brahmas, Cochins and Langshans. Contains "inside" information necessary to success, and impossible to secure elsewhere. Contains standard and ideal charts for all varieties. Color plates of Buff and Partridge Cochins. 100 pages, nine by twelve, ill. Price 50c.

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THE BANTAM FOWL Mr. T. F. McGrew, judge and breeder, tells how to house, feed and grow Bantams, how to treat their diseases, how to select and fit the best for the shows. The most complete illustrated Bantam book published. 72 pages, nine by twelve inches. Price 50c.

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Send all orders to **GEORGE W. YORK & CO.,**
118 W. Jackson Blvd., CHICAGO, ILL.

American Bee Journal

Standard-Bred Italian FREE PREMIUM QUEENS

We are booking orders now for those **Fine Untested Italian Queens** that we offer every year **FREE** to paid-in-advance subscribers as premiums for getting **NEW** subscribers for the Weekly American Bee Journal. These orders are taken for May or June delivery.

What Some Say of our Standard-Bred Italian Queens:

George W. York & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work. A. W. SWAN.
Nemaha Co., Kan., July 15.

George W. York & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9½ Langstroth frames fully occupied to date, and, although I kept the hive well contracted to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week. CHAS. MITCHELL.
Ontario, Canada, July 22.

George W. York & Co.:—The queen I bought of you has proven a good one, and has given me some of my best colonies.
N. P. OGLESBY.
Washington Co., Va., July 22

George W. York & Co.:—The queen I received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line. E. E. MCCOLM.
Marion Co., Ill., July 13.

How to Get these Queens Free

To any one whose own subscription to the Weekly American Bee Journal is paid in advance, we will mail a Fine Standard-Bred Untested Italian Queen next May or June, for each new name and address sent to us with $1.00 for the Bee Journal a year. No one can get for himself the Bee Journal a year and the Queen for $1.00. The Queen is offered as a premium for the work of getting some one else to take the Bee Journal a year. If you, yourself, want the Bee Journal a year and the Queen, send $1.50 for the two, and we will book your order for a Queen. Queen orders will be filled in rotation—"first come, first served." Address,

GEORGE W. YORK & CO.
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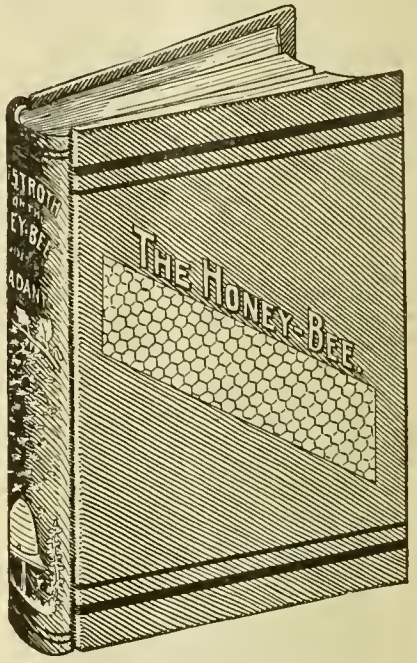
Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains nearly 600 pages, being revised by that large, practical bee-keeper, so well-known to all the readers of the American Bee Journal—Mr. C. P. Dadant.



Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

Well-Bred Queens

Will greatly increase the yield of honey. Am now taking orders for **Cook's Select-Bred Queens**—to be sent as soon as weather permits mailing. Also Caucasian Queens from imported stock.

Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

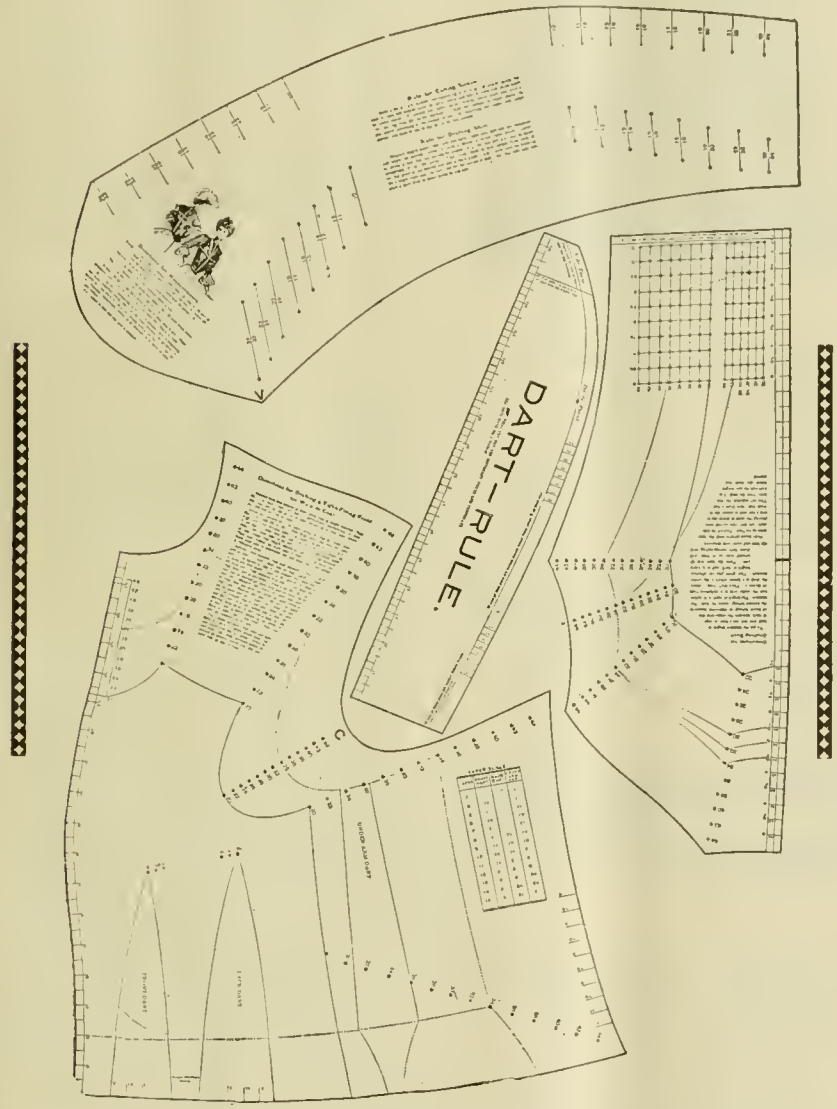
J. H. M. COOK
70 Cortlandt Street, NEW YORK, N. Y.

The Oldest Supply-house in the East, and only Reliable Goods sold.
10 cents brings sample jar by mail.
17A13t · Mention the Bee Journal

American Bee Journal

Something for Our Bee-Keeping Sisters

We think all ladies will agree with us in saying that every man should at least understand some business with which, in case of necessity, he could support himself and family. The wealthiest people frequently come to want, and wretched, indeed, is the man who can not earn a living after his wealth is gone. He sometimes fills the grave of a suicide. And why, in this enlightened age of progression, should not woman, as well as man, be able to depend upon her own resources? In case her husband dies in poverty, must she starve or depend upon charity? In case her husband fails to provide and grossly mistreats the woman he has sworn to cherish, must she humbly submit? **A THOUSAND TIMES, NO!** Let every woman, before she marries, have some knowledge that can be used to make her a living. Every mother, rich or poor, should make her daughters, in a certain degree, independent, by giving them some kind of a trade, and teaching them to be self-reliant. Mothers should have their daughters learn to sew, and not neglect this important part of their domestic education. The daughter so taught will not only make a better wife and mother, but will also be more likely to secure a better husband, and will always command his respect. He will not look upon her



as a helpless "know-nothing," but will know that if he fails in his duties, she can live without him, and this can only strengthen the bond between them. A thorough knowledge of dressmaking can always be turned into gold, and become the means of support for the mother and her little ones. She may never have to use this knowledge in this way, but she has a trade and can use it if necessary.

The outline cut shown herewith is a condensed copy of **THE NEW LONDON LADIES' TAILOR SYSTEM** for drafting and cutting ladies' and children's garments. For simplicity and accuracy it has no superior among the more expensive systems. Thousands of girls have learned more about drafting and cutting with this system than they knew about it after serving their apprenticeship in some of the dressmaking shops of the United States and Canada. Thousands of the best garment cutters have laid their complicated and expensive system aside, and are now using **THE NEW LONDON TAILOR SYSTEM.** Thousands have been sold at $5 00 each, but we will mail it **Free** to a paid-in-advance subscriber to the American Bee Journal for sending us **two new** subscribers at $1.00 each; or we will send it to any one with a year's subscription to the American Bee Journal, both for $1.75; or, we will mail the Tailor System alone for $1.00. Address all orders to

GEORGE W. YORK & CO.,
118 W. Jackson Blvd., CHICAGO, ILL.

Moore's Long-Tongue and Golden
—QUEENS—

Fine Select Untested Queens, $1; 6, $5; 12, $9. Tested, $1.50; 6, $8. Best Breeders, $3 50. Safe arrival guaranteed. W. H. RAILS, Orange, Cal.
9D18t Please mention the Bee Journal.

DOOLITTLE & CLARK

Have some fine Italian Queens of last fall's rearing that are ready to be sent out, by return mail, at $2.50 and $5.00 each.

Borodino, Onondaga Co., N.Y.
21Dtf Please mention the Bee Journal.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

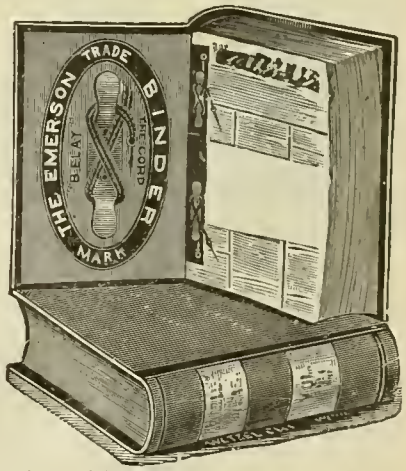
GEORGE W. YORK & CO.
CHICAGO, ILL

Standard-Bred Queens

Reared from Imported and Home-Bred Caucasian, Carniolan, Hall's Superior Goldens, and Leather-Colored Italian Breeders. Their bees are honey-getters. Untested Queens, $1; 6, $5; 12, $9. Select untested, $1.25; 6, $6; 12, $10. Tested, $1.50; select, $2 50; best, $5. List free.
T. S. HALL,
11D8t JASPER, Pickens Co., GA.
Mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the



Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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Please mention Bee Journal when writing advertisers.

American Bee Journal

HAND-MADE SMOKERS

Extracts from Catalugs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich.

Patented May 20, 1879. **BEST ON EARTH.**

Dittmer's Comb Foundation

Why do thousands of bee-keepers prefer it to other makes?
Because the bees like it best and accept it more readily.

Dittmer's Process is Dittmer's

It stands on its OWN NAME and its OWN FOUNDATION, to which alone it owes its reputation and merits.

We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

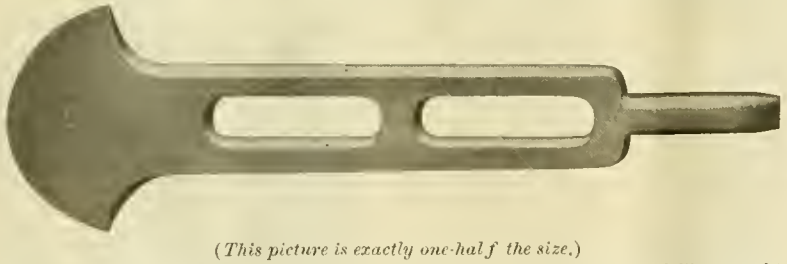
GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Ideal Hive-Tool—"Best on the Market"

Bee-keepers have long needed a special tool to aid them in properly manipulating the hive-parts during the bee-season. The one shown here does the work to perfection.

Best Hive-Tool



Only 30c, by mail

(This picture is exactly one-half the size.)

DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8⅛ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅞ inches long, ⅛ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up supers, as it does not mar the wood.

What Some Bee-Experts Say of It.

Louis C. Dadant (son of C. P. Dadant) wrote us May 10, 1907: "Your Hive-Tool is certainly the best on the market, and after having used one of them no bee-keeper would do without it."

In the first edition (1903) of Dr. Miller's "Forty Years Among the Bees," page 58, he says: "Of all the hive-tools I have tried, I like best the Muench tool." On Jan. 7, 1907, he wrote us, saying he thought "just as much of the tool as ever."

Miss Wilson, Dr. Miller's assistant, says this of the Ideal Hive-Tool: "It is an ideal tool. In fact, I don't see how it could be improved upon. I am sure we would feel utterly lost in the apiary without it.....You will have to try one yourself if you want to know its worth."

The "Ideal Hive-Tool" Free as a Premium.

We will mail an **Ideal Hive-Tool FREE** as a premium to any present paid-in-advance subscriber to the American Bee Journal, for sending us **ONE NEW** subscription for a year at $1.00; or we will send the American Bee Journal one year and the **Ideal Hive-Tool**—both for $1.20. Price of the **Ideal Hive-Tool** alone, postpaid, 30 cents.

GEORGE W. YORK & CO., 118 W. Jackson Blvd., CHICAGO, ILL.

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BEE BOOKS

Sent postpaid by GEORGE W. YORK & CO., 118 W. Jackson Blvd., Chicago, Ill.

Advanced Bee-Culture. Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and helpful writer. You should read his book; 330 pages; bound in cloth, and beautifully illustrated. Price, $1.20.

A B C of Bee-Culture, by A. I. & E. R. Root.—A cyclopedia of over 500 pages, describing everything pertaining to the care of the honey-bees. Contains about 400 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each occupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.

American Bee Journal

While the **Present Stock** of these **BEE-HIVE CLOCKS** lasts, we will sell them at only **$1.50 each,** by express; or $2.00 for the Clock and the Weekly American Bee Journal one year. **Better order at once,** before all are gone.

The Bee-Hive Clock

A $4.00 CLOCK FOR $2.50 ... With the American Bee Journal 1 Year—Both for **Only $3.00**

We have originated and had made specially for our readers, a bronzed-metal Clock, called **"The Bee-Hive Clock."** It is 10¼ inches wide at the base, 9¾ inches high, and deep enough at the base to stand firmly on a mantel or elsewhere. It is a beautiful piece of work, and would be both ornamental and very useful in any house, and particularly in a bee-keeper's home.

The Clock part itself is warranted for 3 years to keep good time. So it is no plaything, but a beautiful and needful article for everyday use.

Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

How to get "The Bee-Hive Clock" FREE

Send us **5 New Subscribers** to the Weekly American Bee Journal for one year, at $1.00 each, and we will send you this beautiful "Bee-Hive Clock" **FREE** (excepting express charges). Or, send us **4 New Subscribers** (at $1.00 each) and 50 cents—$4.50 in all. Or, **3 New Subscribers** (at $1.00 each) and $1.00—$4.00 in all. Or, **2 New Subscribers** (at $1.00 each) and $1.50—$3.50 in all.

Only $2.50, f.o.b. Chicago, by Express.
Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

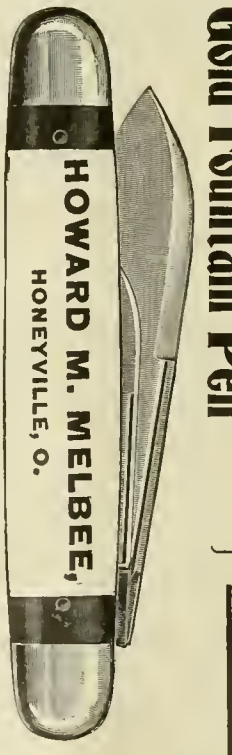
Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

Address all orders to **GEORGE W. YORK & CO., CHICAGO, ILL.**

American Bee Journal Novelty Pocket-Knife Gold Fountain Pen

All for **$3.00**



(This cut is the full size of the Knife.)

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

Worker

Queen

Drone

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

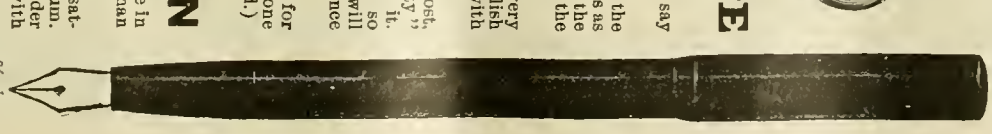
Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

SOLID GOLD FOUNTAIN PEN

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.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We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00.

Address all orders to

GEORGE W. YORK & CO., Chicago, Ill.

American Bee Journal

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The Famous Honey-Producers

Texas Queens

The Famous Honey-Producers

I am booking orders now for April, May and June delivery, for **Carniolans, Italians,** and **Goldens**—equal to the best, regardless of price. PRICES:

Tested Queens ....$1.00 each; $10.00 per doz.
Warranted " .... .75 " 7.00 "
Untested " .... .50 " 5.50 "

6Atf **GRANT ANDERSON, Sabinal, Texas.**

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc, as we can save you time and freight. Beeswax Wanted for Cash.

H. M. HUNT & SON,
REDFORD, Wayne Co., Mich.

ITALIAN QUEENS

Golden or Leather Colored. One colony of this strain produced 280 fancy sections in one season. Order now for delivery in season. Untested Queen, 1 00; six, $5.00. Tested, $1.50 up. Correspondence solicited.

ROBERT B. McCAIN,
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Queens and Nuclei

Circulars Free.

D. J. BLOCHER, Pearl City, Ill.
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ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

One Untested Queen.....$ .90
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" Select Tested Queen 1.40
" Breeder Queen..... 2.20
" Comb Nucleus (no Queen)..... .95
" Untested Caucasian Queen 1.25
" Tested Caucasian Queen 1.75

Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

J. L. STRONG
5Atf 204 E. Logan St., CLARINDA, IOWA.

Angel's Golden Beauties

—AND HIS—

Bright Three-Banded Italian Queens

Have but few equals and no superiors. A fine, large Queen of either strain for $1; an extra-select breeder for $2.50. Have had 12 years' experience at queen-breeding. Address,

SAMUEL M. ANGEL
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Your Order for Queens

Will be promptly filled. We can supply both tested and untested Italian Queens, your choice of either imported or home-bred mothers.

Our bees are bred for business; our Queens will not disappoint you. Tested Queens, $1.00 each; Untested Queens, 75 cents; $8 per doz.

J. W. K. SHAW
20Atf LOREAUVILLE, Iberia Pa., LA.

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PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

Now is the time for you to buy your **Bee-Supplies.** We manufacture **Bee-Hives** of all kinds. The Dovetail, Langstroth, Alternating, and the Massie Hives, we make all of them. Remember that half the work and worry of your apiary is removed when you use our goods. Every one knows the advantage of a good, substantial hive; the quality of material and workmanship in our hives are not excelled by any other make.

We have been in the business over 40 years, and know what is practical, and when you once give our goods a trial you will have none other. Remember that now is the time to get your order in for the season's supplies. Have you received our new 1907 Catalog? If not, write for it at once. You cannot fail to understand how to order just what you want from our Catalog, it is the easiest to understand that you ever saw.

No trouble to give estimates; tell us what you want.

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

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QUEENS Caucasians, Italians, Cyprians and Carniolans

Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00; one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear; payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

E. HAUNSCHILD, the Queen-Breeder,
20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

3-Frame Italian Nuclei

3-frame Nuclei of fine Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

Do You Like to be Stung?

What's the use wearing an old style net bee-veil that blows in your eyes, sticks to your face, and gives the bees a chance to hand you a hot one?

The Muth Ideal Bee-Veil

(75 cents, postpaid)

keeps the bees at at a distance because it is made of light indestructible wire and strong cloth. You can see through this wire as if it wasn't there; and you can smoke inside the veil all you want. It can't catch fire.

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If you buy the has-been kind of veils

You Certainly ARE "Stung!"

You get dollars of satisfaction out of it. No doubt about this—it's the best-ever veil on the market.

Better send for one to-day—don't be a drone.

We're big people in all bee-supplies—ask for catalog.

THE FRED W. MUTH CO.

The Busy Bee-Men,

51 Walnut Street, - CINCINNATI, OHIO

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American Bee Journal

A GREAT IMPROVEMENT

Will be found in

The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year. One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.
Dept. B. JAMESTOWN, N. Y.
[Established 25 years.]

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Headquarters for Bee-Supplies

ROOT'S GOODS

Complete stock for 1907 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH,

as most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, June 8.—Not any of the honey yield of 1907 has appeared on this market, and with the choice white grades of last year's comb being exhausted there is practically nothing to base values on other than that of history, for there is always a limited demand for honey. New white comb of good flavor would sell at 16c; no demand for other grades. Extracted is also exhausted of best grade. Beeswax is selling on arrival at 32c. R. A. BURNETT & Co.

CINCINNATI, May 23.—There is no material change in the honey market at this writing. Extracted honey is not moving so rapidly as it could, owing to the cool weather. We quote amber in barrels at 5½@6½c; fancy table honey in crates of two 60-pound cans at 8@9c. For choice, yellow beeswax, free from dirt, we are paying 31c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, June 10.—The honey market has been quite brisk for this time of the year. A number of odd lots have been cleaned out of the market. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm, 32c.
We are producers of honey and do not handle on commisaion. WM. A. SELSER.

NEW YORK, May 21.—White comb honey is practically cleaned up, and there is very little demand at this time. There is some dark and mixed comb on the market, but no demand to speak of, and some of this will have to be carried over until next season, or sold at a sacrifice. Therefore we cannot encourage shipments of off-grades or dark honey at this time. Extracted honey is in fair demand and prices are ruling firm. There is very little new crop arriving as yet from the South, and while it is rather early, we doubt whether we will have any large shipments from the Southern States this season, as we fear there will be a short crop, judging from the reports we are receiving. There is quite a good stock of last year's crop still on the market, sufficient to last until the new crop from various states arrives. There is no change in price as to extracted honey since our last. Beeswax firm and likely to remain so for the next 2 months.
HILDRETH & SEGELKEN.

INDIANAPOLIS, April 12.—comb honey is not plentiful, but demand is slack. Fancy white comb brings 16@17c; No. 1 white, 14c; amber, 12@13c. Best grades of extracted honey bring 8@9c; amber, 6@7c. Good average beeswax sells here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Bees wax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, June 1.—The honey market is almost bare of comb honey, and demand good; receipts of extracted are light, and demand light; we quote: No. 1 white comb, 24-section cases, $3.25; No. 2, white and amber, $2.50@$2.75. Extracted, white, per pound, 8c; amber, 7@7½c. Beeswax, 30c, C. C. CLEMONS & CO.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2,80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, May 21.—The market on fancy white comb honey is entirely bare. No. 2 is selling slowly at 12c. Extracted, light amber, brings 5½@6c. Beeswax is selling here at $35 per 100 pounds. C. H. W. WEBER.

FOR SALE

1000 sixty-pound CANS. A No. 1 condition, packed two in a case. Cases also first-class. Will sell them cheap.

Michigan White Clover Honey Co.
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THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to
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FOR HIS
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Liberal Discounts to the Trade.

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of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.
We are always in the market for
Beeswax
at highest market prices.
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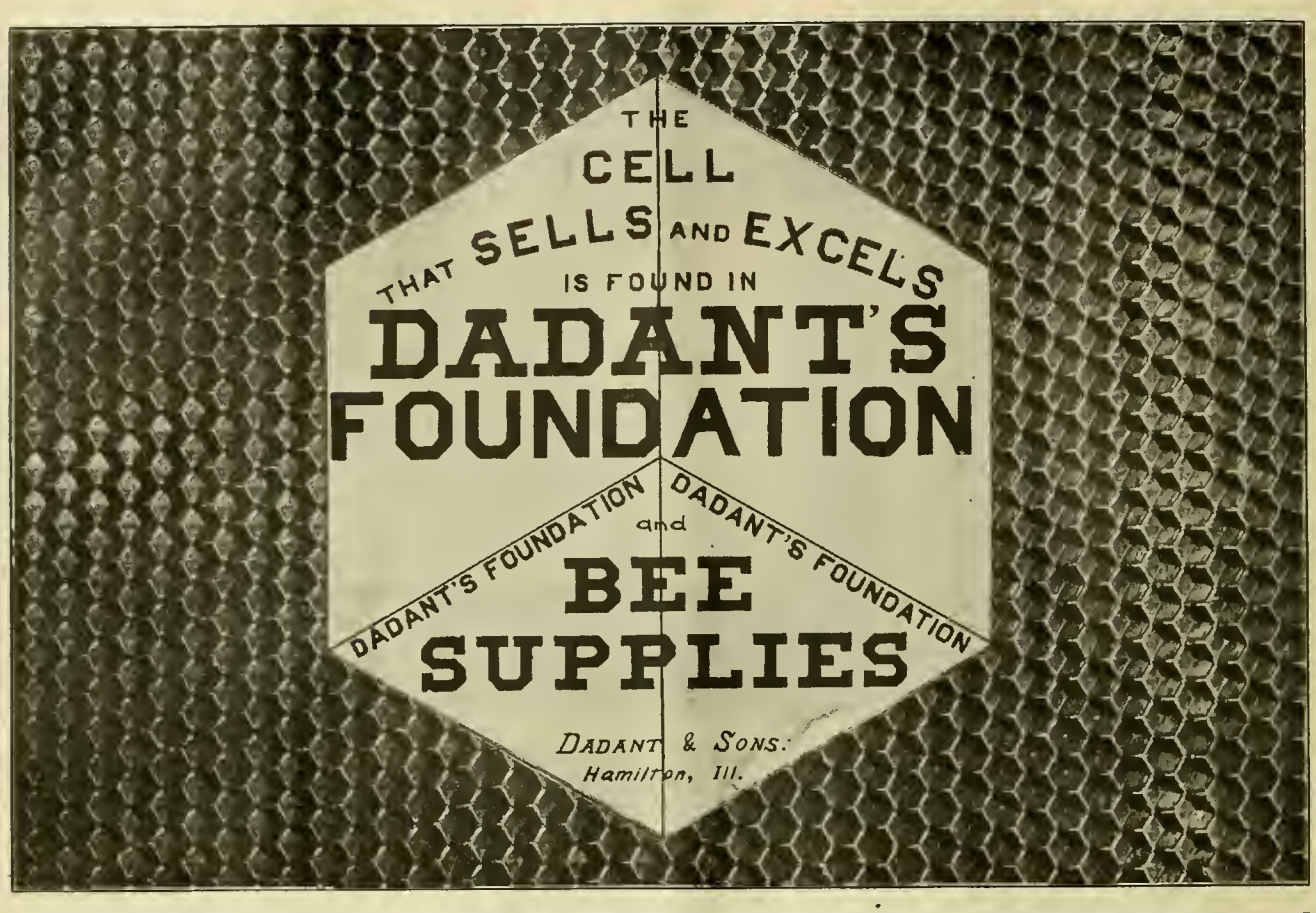

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talk for themselves; having bought once, you will buy again. Our orders show that. The reason for this is that nothing is used in the making of our **BEE-GOODS** that we know is not fit to go in. Why should we when we have plenty of the best as it comes direct from the forest to our mill and factory.

SECTIONS are made of the basswood timber, grown here in the basswood belt of Wisconsin.

DOVETAILED HIVES, of lumber almost clear, made accurate and smooth.

SHIPPING-CASES, strong and neat—nothing flimsy about them.

SHIPPING FACILITIES THE BEST

You will get your orders sent on very short time, as we are located on three direct railroads to Chicago there connecting with the trunk lines for the East, South, and Southwest, and some parts of the West. The West by way of St. Paul and Minneapolis.

If you have not yet received our Catalog of **BEE-SUPPLIES** for 1907, just write for it.

MARSHFIELD MFG. CO., Marshfield, Wis.

Some of Our Dealers Who Handle Marshfield Bee-Goods:

IOWA—J. W. Bittenbender, Knoxville.
Gregory & Son, Ottumwa.
KANSAS.—S. C. Walker & Son, Smith Center.
MICHIGAN — Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.

NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.
ARIZONA—H. W. Ryder, Phœnix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.

ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland.
J. Gobeli, Glenwood.

47th Year June 27, 1907 Number 26

AMERICAN BEE JOURNAL

An Important Announcement

To the subscribers of the American Bee Journal:—

Believing that the old American Bee Journal should occupy a wider field, and thus be a help to a larger number of readers, we have decided to issue it *monthly*, beginning with July (next month), instead of weekly, and at 25 cents a year. This very low price will permit every bee-keeper everywhere to subscribe for it, even if he or she has only one colony of bees. Yes, and any one who is at all interested in bees as a Nature study will, no doubt, be glad to read it regularly.

For 26½ years the American Bee Journal has been issued every week, but it has been found that there are only about so many bee-keepers who are sufficiently interested in bees to think that they need a *weekly* bee-paper. What we want is a larger constituency, hence we believe that by publishing the American Bee Journal once a month, and making the subscription price 25 cents a year, we will be able to reach the goal of our ambition sooner, and at the same time do a better service to all. (The yearly price to Canada will be 35 cents; to England and other foreign countries in the Postal Union, 50 cents a year.)

We believe that after a few months at least 99 percent of our present list of readers will see that we have done wisely in making the change mentioned.

We are not quite ready to announce more of our plans just now, but will do so in the July number and in those immediately following it. We trust we may have the continued co-operation of all our old friends, and, of course, we expect very soon to enlist that of many thousands of new ones all over the world.

We may say that the monthly American Bee Journal will contain at least 32 pages each issue. The weekly number was supposed to contain 16 pages, so that under the new plan there will be half the quantity of reading matter at only one-fourth the former cost.

The July number will be issued about the 15th of the month; then thereafter we expect to mail it on the 10th of each month. The advertising forms will close on the 5th.

Of course, all who have paid their subscriptions in advance at the regular $1.00 rate (or the extra foreign rate) will be credited just four times as far ahead as their present address-label indicates. Those who are in arrears will pay at the rate of $1.00 a year up to the end of this month.

In the next issue we will be able to make further announcement. In the meantime let us all hope that bee-keepers may harvest a good crop of honey, and that although the prospects may have been discouraging, the silver lining of the clouds may be revealed and all be prosperous and happy.

GEORGE W. YORK & CO.

Chicago, Ill., 118 W. Jackson Blvd.

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec07" on your label shows that it is paid to the end of December, 1907.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

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4 times	5 per cent	100 lines	5 per cent
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Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their awful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Cards

are just the thing.

We send them by Return Mail

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
I CANNOT BEAR TO LOSE YOU
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART

As most of our readers know, we have got tenout a Souvenir Postal Card for bee-keepers. The cuts herewith show the card in reduced size, and but one color, while the real card is printed in 4 colors. It could also be sent to honey-customers, to remind them that it is time to buy more honey, etc. There are many uses to which this Card can be put.

Prices—postpaid: 3 cards for 10c (stamps or silver), or 5 FREE with the American Bee Journal one year at $1.00; 10 for 25c. There is a blank space on the card about 2x2½ inches in size for writing. Send all orders to

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Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

QUEENS

Caucasians, Italians, Cyprians and Carniolans

Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00; one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear: payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

E. HAUNSCHILD, the Queen-Breeder.
20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

3-Frame Italian Nuclei

3-frame Nuclei of fine Italian bees with Tested Italian Queens, at $3.25 each; or in lots of 5 or more Nuclei, at $3.00 each. Nuclei will be shipped by express (charges not prepaid), from a point 100 miles west of Chicago. Orders will be shipped in rotation—first come first served. Address,

GEORGE W. YORK & CO.
118 W. Jackson Blvd., - CHICAGO, ILL.

BEE-SUPPLIES

PERFECT GOODS LOW PRICES

A Customer Once, a Customer Always.

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Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Catalogs issued in English or German.

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Please Mention the American Bee Journal when writing Advertisers

American Bee Journal

PURE ITALIAN BEES FOR SALE

Full colonies, in up-to-date hives; Nuclei and choice Queens.

Hershiser Wax-Press and other Lewis Bee-Supplies. Good Goods and Prompt Shipment.

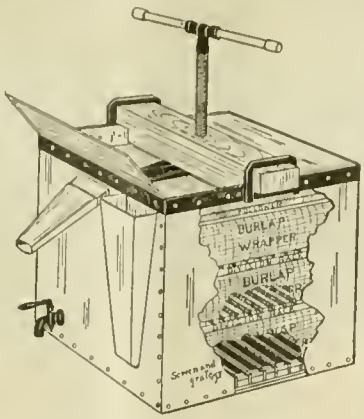
Any bee-keeper can save money, as long as the goods last, on almost any supplies needed next season, by taking advantage of our

Fire Sale of Bee and Poultry Supplies

Have sold several thousand dollars worth of these goods, and no complaint.

☞ Send for list of Slightly Damaged Goods to select from at Reduced Prices. Also for 1907 Catalog of New Goods.

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.



H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
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Write us now for our Catalog and get low prices on good, honest,

BEE-KEEPERS' SUPPLIES

Our specialty is making Sections. All other goods up-to-date.

AUG. LOTZ & SON, Cadott, Wis.
10A34t Please mention the Bee Journal.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders NOW.

H. M. PARKER, JR.
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American Bee Journal

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Freeport, Ill., June 11, 1907.

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Yours very truly,
(Signed) John H. Bamberger.

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GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE 27, 1907 | Vol. XLVII—No. 26

Bees Building Up in Spite of Weather

The following was written June 11, at Marengo, Ill.:

MR. EDITOR:—On page 430 is a note from me, written May 16, in which I mentioned the deplorable weather, and said, "No matter how good the season, it will hardly be possible for colonies to build up in time to do good work on clover." Well, I didn't know as much as I thought I did. At that date I had not opened a hive for a number of days, but I thought I knew enough about bees on general principles to know that when the weather was so cold right along that seldom a bee could leave the hive, increase would be very slow if it did not cease altogether. But when I opened the hives a few days later I was agreeably surprised to find that to all appearance matters had been progressing just as if the bees had been hard at work on the flowers every day. So my humble apologies are hereby tendered the bees for underestimating their ability to withstand adversity.

Surprise No. 2 came when I found at this later opening that some colonies were about destitute of honey, although they had gone into winter quarters heavy—very heavy—and I had counted them safe till clover. Assuredly they would have starved before that time if I had not come to their assistance with solid combs of honey, of which I had a good store.

C. C. MILLER.

The moral of all this is that bees will build up under quite adverse conditions, *if they have an abundant amount of stores in sight.* Something like this seems to be the case: Take 2 colonies of equal strength in early spring, the first with enough stores to last, if economically used, till clover bloom, and the second with 10 pounds more honey than the first. At the opening of the clover harvest, the one may be found just as much reduced in stores as the other. But while alike in the amount of stores, they are greatly different in strength. The one has turned its extra 10 pounds of honey into bees, while the other has seemed to feel it could not indulge in such expansion. Of course, the figures in this supposed case may never occur in actual practise, but the principle illustrated is not easy to dispute.

The Isle of Wight Bee-Disease

The following note has been received at this office, dated at Chicago, on June 10:

EDITOR AMERICAN BEE JOURNAL:—I enclose a cutting from a recent issue of the London Daily Mail, describing a peculiar disease which has attacked bees in Great Britain, as perhaps you may not have seen it; and I should be glad to know if you have had any experience with any such disease and can account for it.

THOMAS ERSKINE,
British Vice-Consul.

The clipping is in part as follows:

The ravages of the bee-disease in the Isle of Wight are much worse than at first reported, for among over 30 bee-keepers in different parts of the island, which a special correspondent of the Daily Mail has interviewed, he finds that 3 years ago they had an average aggregate of 326 colonies, which are now reduced to 29, while 14 of these are more or less affected and are not expected to survive many weeks. In 15 cases the bee-keepers have lost all their bees, and the array of empty hives tells its own melancholy tale.

The symptoms are that the bees in hundreds—and where several colonies are kept in thousands—are found on a warm summer day crawling upon the ground unable to fly. When examined and dissected the intestine is full of a bright yellow pollen, moist and sticky. When the diseased bees sting, some of this yellow matter is deposited with the sting, and after the swelling has subsided the flesh is stained yellow, as in yellow jaundice; but in the case of a healthy bee the sting is white, and the effect on the flesh is red.

The article goes on to say that the suggestions of the Board of Agriculture, "such as requeening, disinfecting, spraying and feeding, have already been tried without any beneficial effect," and then gives, as the best treatment, the treatment for foul brood with the addition of feeding salicylic acid and boracic acid for two weeks.

Considerable has been said in the British bee-papers about the matter, and at least one continental bee-paper has called the disease bee-paralysis.

The case is no doubt bad enough, although the newspaper account, as in most newspaper accounts when bees are under discussion, may not be entirely reliable. It is hard to believe that a bee with life enough to sting would deposit "yellow matter" with the sting, and a bee-keeper is somewhat puzzled to be told that "in the case of a healthy bee the sting is white." After reading that, he is likely to have some question as to the rest that may be said.

However serious the case may have been, no further loss can occur, since only 29 colonies are left on the island, and one would think that the surest way out would be to destroy the 29 and begin again with a clean bill of health. Little interest has been manifested in the matter on this side, partly because so far away, and partly because of the limited extent of the disease, the Isle of Wight being less than a third as large as an average county in Illinois. Yet if it should turn out to be a new disease, more terrible than any other yet known, it is well that we should be informed about it in advance, for bee-diseases have an insidious way of invading quite distant territory, no matter how small the area originally affected.

Does the Queen Consciously Fertilize Eggs?

As a contribution to this unsettled problem the following Stray Straw is given in Gleanings in Bee-Culture, page 754:

I don't know whether worker-eggs are fertilized by the will of the queen or automatically. But I want to enter a protest against what is generally considered as a knock-down argument against the automatic theory. It's given something like this:

"The claim that the smaller size of the worker-cell compresses the abdomen of the queen, automatically fertilizing the eggs, is shown to be groundless by the fact that, when a queen lays eggs in worker-cells not more than $\frac{1}{8}$-inch deep, there can be no com-

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pression, and yet the eggs are fertilized."

Good friend, you must know that there is no real squeezing of the abdomen, either in a worker-cell or a drone-cell. The worker-cell is a trifle shallower than the drone-cell. May not that difference in depth cause such a difference in the position of the queen as to produce fertilization in the shallower cells? And would not fertilization be expected in a still shallower cell? Did you ever know drone-eggs to be laid in drone-cells only ⅛-inch deep? I don't think I ever saw such a case; but I may not have observed closely enough.

One who has watched the queen at work laying eggs can not fail to have noticed that while the egg is being deposited the abdomen is curved to no small degree, and it is easy to believe that this curving is greater in a worker than in a drone-cell, and still greater in a cell only partially built out. It certainly looks like scoring one for the compression theory.

Claim Bees are a Nuisance.—F. D. Clum, of Cheviot, N. Y., is one of the many "M. D.'s" that are interested in bee-keeping. Recently he wrote us as follows:

EDITOR AMERICAN BEE JOURNAL:—I notice in the American Bee Journal of May 23d, that a subscriber living in a small town in Wisconsin complains about a troublesome neighbor who claims that honey-bees are a nuisance. The subscriber wants to know "What to do with such a man?" The great remedy is education. You notice by the enclosed that we also have troublesome neighbors in New York State, and my reply to their complaint. After the complainants became convinced of the value and the importance of bees, and that they are just as necessary to the farmer, the gardener and the fruit-grower as to the bee-keeper himself, the opposition promptly ceased, and the complainants felt heartily ashamed of their previous ignorance. If other bee-keepers would publish similar communications in their local newspapers, I think it would greatly benefit all parties concerned. F. D. CLUM, M. D.

The newspaper article referred to reads as follows:

COMPLAINT AGAINST A BEE-KEEPER.

A complaint composed and written by Amasa P. Lasher, and signed by John Petsil, was recently presented to the Germantown health officer, "protesting against the continuance of a colony of bees located on the premises of Dr. F. D. Clum, in Cheviot."

Why should the gentle Italian bees, which every one knows never sting unless molested, be complained of when the 10 to 20 colonies of the stinging black bees owned for the last 20 years by Charles Rockefeller (who is just as near a neighbor to Messrs. Lasher and Petsil as is Dr. Clum) have not caused a single complaint in times past? Moreover, there are, all told, about 100 bee keepers in the town of Germantown who own colonies of bees, varying in number from 1 to 135. Why have none of these been complained of?

Taking these facts into consideration, it looks as if the complaint were made for the purpose of making trouble for Dr. Clum, or as a matter of revenge or spite.

Any fruit-grower who will, year after year, kill and eat robins and other birds in violation of the law because they destroy a few cherries, is probably so ignorant that he does not know or appreciate their value on his fruit-farm as destroyers of various injurious insects and worms. It is not expected that such a person has sufficient intelligence to know the value and necessity of bees on his fruit-farm; but Amasa P. Lasher has spent the greater part of his life teaching school, and for that reason is supposed to have a least average intelligence. Now can it be possible that he does not know that bees are a necessary insect for the fruit-grower? That as they live over winter, in the early spring they fertilize the fruit-blossoms when there is no other insect to do the work? He, as an instructor of the young, should know that bees are as necessary to plants as plants are to bees.

In the complaint, composed and written by Amasa P. Lasher against the bees on Dr. Clum's place, appears the following statement:

"Complainant further alleges and believes that the bees have a destructive power that robs the fruit-grower of the legitimate profits that should accrue from his exhaustive labors by destroying a large percentage of the small fruit."

The above statement is so directly antagonistic to the true facts that I would not believe that Amasa P. Lasher had written it until I saw it in his own handwriting. Can it be possible that a man who has taught the Cheviot school the greater part of his life does not know better? If he does not, it is my opinion that the school needs a more enlightened teacher.

It is like thrashing old straw to state that bees never touch perfectly sound fruit. Their physical make-up renders it impossible for them to do so; but if fruit is crushed or injured and the juice exudes, the bees gather to collect what could otherwise go to waste.

Messrs. Lasher and Petsil own vineyards, and for their information I will state that if they care to investigate the matter they will find that the English sparrow is most destructive of grapes, and in the city of New York have been seen to tear open packages to eat the grapes within. There is also a small, swift-flying, shy bird, called the Cape May warbler, which appears about every vineyard. It comes early in the morning, just at the break of day, and for that reason is seldom caught in the act. It has a long, sharp, needle-like beak, and after alighting on a bunch of grapes it will puncture grape after grape as fast as one can count. The bee that follows later to collect the sweet juice that exudes and goes to waste gets the blame for puncturing the grape.

Perhaps it is well to republish the following extracts from one of my communications to the Register of May 1, as follows:

VALUE OF BEES TO HORTICULTURE.

The fruit-grower, gardener or farmer who does not realize and appreciate the great benefit he derives from honey-bees in the great work of cross-pollination, which is imperatively necessary to his success, does not fully understand his business.

Botanists classify plants in their relation to fertilization into two classes, viz.: Those fertilized by the wind and those fertilized by insects.

In many varieties of plants and trees the stamens that bear the pollen, or male element, are on one plant or flower, and the pistils that grow the ovules—the female element—on another. If it were not for the fact that insects—chiefly bees—carried the pollen from one flower to the stigma of another, there would be no seeds or fruit grown. The pollen-grains are so constructed as to adhere to the insect that visits them, and then be carried from flower to flower.

In the large green-houses near our large cities where early cucumbers, etc., are grown for the market, it is always necessary to have one or two colonies of bees inside to fertilize the blossoms. No bees, no cucumbers, unless men go around with a brush and dust the pollen from one flower to another, which is very laborious and expensive work.

Those who grow flowers doubtless have observed that the fuschia and begonia never produce seed in a closed room; yet when set out-of-doors where bees can get at them they seed abundantly.

All kinds of fruit are greatly benefitted by bees, and a large proportion of our fruit, such as apple, pear, and particularly the plum, would be barren were it not for the honey-bee; therefore, the intelligent fruit-grower, farmer or gardener, is always glad to have a bee-keeper locate in his immediate vicinity, for he always derives very much more benefit from the bees than the bee-keeper himself. In fact, profits from keeping bees are so uncertain that it is very rare indeed that a bee-keeper tries to make a living from it.

Lastly, I will inform Messrs. Lasher and Petsil, as well as all others interested, that the National Bee-Keepers' Association will back all of its members. Any number of legal decisions have been handed down to prove that bees are not a nuisance *per se*; that when they are properly kept, and due precautions used, as on my isolated place, that they can not be driven out of the town. There are several precedents from various courts, even from a State Supreme Court, to show that bees have a right to be kept, even within a corporation like any other stock, and any village ordinance not in conformity with these decisions is unconstitutional; and that several ordinances declaring bees to be a nuisance have been repealed. This, probably, is the reason why Amasa P. Lasher could not get the State Board of Health to take action in the matter, and explains why his paper of complaint was returned to the Germantown officials; but as the matter is to come up at the next meeting of the Germantown Board of Health, it remains to be seen what they will do. F. D. CLUM, M. D.

The six paragraphs following the heading, "Value of Bees to Horticulture," contain just the kind of information that should be republished far and wide in local newspapers. No doubt almost any of our readers could have his local editor use it if he requested him to do so, and if, at the same time, he were given a copy of it.

It is just as Dr. Clum says, ignorance is at the bottom—and also at the top—of nearly every complaint against bees. Most people do not know the value of bees to fruit-growing else they surely would not oppose the presence of bees.

It will take quite a long time to inform all the people who need to be taught concerning bees and their great importance, but bee-keepers should do all in their power to see to it that, so far as possible, apicultural knowledge shall "cover the earth as the waters cover the sea." Let us all do what we can to hasten the coming of the brighter bee-

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keeping day when all the world shall know the truth about bees and honey, which truth shall make them free—from ignorance, and prejudice, as well.

A Section-Size Correction.—We have received the following from Mr. Wm. M. Whitney, of Lake Geneva, Wis., under date of June 17:

MR. EDITOR:—In the report of the Chicago-Northwestern Bee-Keepers' convention, on page 521, I am made to say that I have sections $4\frac{3}{4}$x$5\frac{5}{8}$, which is far from correct. Such a section as that, if properly completed, would weigh at least $1\frac{1}{2}$ pounds. It so blunts the point intended to be made as to make a bad blotch. The section is $3\frac{5}{8}$x$5\frac{3}{8}$—7 to the foot—a little narrower than the 4x5 plain, but taller and thicker, weighing, when nicely capped, just 16 ounces—have weighed dozens of them. The double supers, as I call them, with section-holders and fence, hold 48 sections each, which is put on a strong colony in time of good honey-flow, and often duplicated. Bees work in them better than in the $4\frac{1}{4}$ section. I don't know why.

My hives are overflowing with bees, but I'm feeding, anxiously looking for white clover.

WM. M. WHITNEY.

Analysis of Pollen.—Having on page 429 reported an unsuccessful search for an analysis of pollen, Mr. W. K. Morrison kindly comes to our aid with the following:

1. Albumen—7 percent.
2. Peetic acid } 5 percent.
3. Grape sugar }
4. Butyric acid }
5. Myricene }
6. Palmatin acid } 5 percent.
7. Stearine acid }
8. Oleic acid }
9. Glycloxyd.
10. Anthosmim.
11. Hyppuric acid.
12. Cerinthin.
13. Pollenin.
14. Cellulose.
15. Eritholin.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

"Songs of Beedom."—This is a beautiful 16-page-and-cover pamphlet, 6x9 inches in size, containing 10 bee-songs—words and music—all the songs so far written specially for bee-keepers, we believe. It is nice, as well as convenient, to have these songs all in one binding. Every bee-keepers' organization should have copies for use at conventions. They could be sold to members after using once, or held by the secretary for use at future meetings. Of course, every bee-keeper's family will want at least one copy. It is sent, postpaid, for only 25 cents, or 3 copies for 60 cents; or, we will mail one copy with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

No. 5.—Comb-Building and Obtaining Surplus Honey Cheaply

BY R. C. AIKIN

In the previous article I discussed nuclei and how to make them. Still further back in these articles—in Nos. 2 and 3—I mentioned the making and use of nuclei. I also have made reference to specialty in the use of bees; that is, running part for honey and part for colonies for next year, and now I want to speak of another special use of certain kinds of colonies, and that is—

BUILDING OF BROOD-COMBS.

Every practical bee-keeper knows that under certain conditions much drone-comb will be built, while under certain other conditions only worker will be built. Years ago Mr. Doolittle told us how to utilize weak colonies, and specially weak ones with young queens in getting straight all worker-comb. It is a fact that a weak colony with a young queen will build almost exclusively worker-comb, and under certain conditions they will build just as pretty, straight ones as can be had from comb foundation, and do it more cheaply than by the use of it.

Here is another fact—I previously mentioned this point—a small colony just getting started with bees to cover well one to 3 combs and brood in proportion, will put up more honey (that is, gather, store and consume) than a like number of bees under other conditions. When the young are hatching fast, and there is a good proportion of nurses and comb-builders, it is astonishing how much they will build, and how well they will do it.

Suppose you have started with a 1-frame nucleus. First, put the one frame at the side of the hive, and next to this put a drone-comb, or one mostly drone. Such a colony will not use the drone-comb for anything but honey-storage, and if they begin to get crowded they will put almost every bit of the honey in the drone-cells and fill the worker-comb with brood from end to end. When the colony can use more space, move the brood from the hive side and put in a frame with a starter; this gives the hive side, which is straight, for one guide, and the face of the comb next to it, having been next to the hive side, will be as straight as a board, for it was lined by a board; there they will build as good a comb as if foundation were used.

But you may object to having them build next to the outer wall, as being too cold; in a few cases that may be a valid objection, but you can get exactly the same results by using a dummy or follower board, putting the drone next to the hive side, and the brood-comb between it and the dummy.

As fast as the comb is built in the first frame given, it will be used by the queen, and it won't be many days until it is full, when it should be moved from the old one and a starter put between it and the old one, and also at the same time one put between the new one and the dummy; these two will be built about as quickly as the first one. And right here is the time that another drone-comb may be put on the inside next to the dummy, the presence of drone-comb will encourage the building of worker-comb. If you do not have dummies to use just let a drone-comb serve in its place; I often use a comb instead of a dummy.

We have now given the colony 3 starters, and with a young, vigorous queen you can depend upon 99/100 of the comb in them being worker, if you have followed the plan outlined. At this time, if there has been free gathering of nectar, the drone-combs should be full of honey, and now 2 more frames may be given, this time putting them as near the center as may be, and they may be put both together and between the 2 nicest, straightest sheets of brood. Note this fact: A sheet of brood to build comb next to is better than a board, every time; it is a warm place, and where the nurses are doing much business; there the fewest bees necessary to the work can build.

Note also that a sheet of brood will remain just as straight as when you find it until the brood hatches from it, or until they cease to breed in it and put honey therein. Always, in any colony, when you want to have a comb built, put the starter next to or between sheets of brood; if between store-combs, and nectar is coming freely enough to cause the combs to be promptly filled, there is always a tendency to lengthen the cells out into the space in which the new comb is to be built, until it is too narrow to build even deep enough cells to rear brood in. I have often seen full sheets of foundation made into very thin combs with a very thick one on either side, and have seen even the two adjoining combs with cells so lengthened that they cut out entirely the new comb at places. Yes, the best possible place to build new combs is between sheets of brood.

By the things pointed out in the last paragraph, you will see that conditions may make very different results; where you can get a good comb built one time you may not the next. I hove indicated the plan that will meet nearly

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every possible condition, so that even the man of very limited experience may succeed, and such work is the finest kind of education for the beginner—it is a whole lot better than paying out money for foundation. As one gains experience, and his judgment is sharpened, he can vary from the rule because he will know when to do, or not to do, this or that. It would make this description very long and tedious to go into all the details to explain minutely the effect of variations in temperature, honey-flow, changing proportion of fielders to nurses, etc.

Now when the colony has built 4 or 5 new combs, you have just about reached the limit; after that the queen will begin to want drone-comb to lay in. Whenever a colony has reached the time they are about to occupy the entire 7 to 10 combs, they instinctively prepare for increase by the rearing of drones, but up to the time they have occupied about 6 combs it is worker-comb they want and will build. With old queens they will build less, and other conditions affect results, too.

Getting Surplus Honey from Weak Colonies.

These comb-building colonies—whether from weak colonies that were late in getting started in the spring (for such can be made use of in getting comb built) or from nuclei—will sometimes store quite a little surplus, particularly if extracted honey be produced. The drone-combs used can be removed and their places filled with ready-made worker-combs. These removed drone-combs may be extracted at the time of removal, or an excluder may be put over the brood-chamber and an extra body put above, and these combs put into it and the rest of the space filled with either starters or other comb, or parts of comb of either drone or worker. The best way is to put these removed drone-combs in the center and fill out the sides. If starters be used there will of course be lots of drone-comb built, but the excluder keeps the queen from them, and nothing is lost. A lot of new drone or worker comb can be sold as chunk honey, or it may be extracted to be used over again, or may be broken fine and strained; or, what is the better way, is to melt it, and so separate the wax from the honey. Each 100 pounds of new combs melted when full of honey, will yield about $1 worth of wax. It pays to do it.

There is no cheaper or easier way to produce extracted honey on a small scale than the above, or some modification or variation of the plan. Honey strained or melted out from these new combs is every whit the equal of that extracted by the centrifugal extractor; and if well done, that melted out is the finer product of the three methods. Honey separated from the comb by heat, when well done, can not be equaled for body and fine flavor; it is simple XXX.

The honey-producer who is getting up No. 1 and fancy comb honey for the general trade these days must be an expert, and as I have previously indicated in former articles of this series, the conditions that are required for obtaining the desired result, to a more or less extent, damage the future prosperity of the colony, especially for withstanding the following winter. It is better to specialize; but with some such method as indicated above one may produce extracted, and that with no particular skill as an apiarist, and get as good returns from the bees and leave them in better condition. Would-be apiarists with modern hives trying to run a machine and system they do not understand, nor have yet become even half-way bee-masters, usually soon "blow up the boiler," and thousands of us, with years of practise, do likewise.

The divisible hive—that is, what is known as the divisible shallow-frame brood-chamber hive, as the Heddon idea—is not understood by one in a thousand of our best apiarists, and has met with failure in the hands of many who have tried them. The hive is different from what we have been accustomed to, and must have its own methods to succeed. Lack of understanding and proper method has caused the failure, and not because of shallow frame and divisible brood-chamber. This reference to that hive and system here is merely to point out a fact, and not to discuss the merits of the hive and its system. If one is beginning anew, such a hive and its system might well be adopted, but I am here trying to teach the simplest and best methods with the hive in common use.

No, no, we can not become experts from the start; it is well for us to learn some of the details of the whys for many things, as I have here indicated. When we know from both theory and practise what bees will do, and the why of it, then it is time to undertake the business as a business for profit, and in a general commercial way. I believe the man who allows his bees to swarm as they will, following their own instincts; the man who believes and advocates the let-alone plan, and hives swarms, and puts on supers, and shifts hives around a few times, as the sum of his management, is by no means an expert nor a master. Get to the internal workings, and know why this and that is done by the bees, and do not trust to their wisdom; learn that the bee is not half as wise as she gets credit for being. There is reason for the things she does; but her doing is not prompted by any process of reasoning, taking into consideration cause and effect. That is the master's part.

Loveland, Colo.

Conducted by Emma M. Wilson, Marengo, Ill.

Making Increase from One Colony

Dear Miss Wilson:—I have a colony of Italian bees having a queen with clipped wings. What can I do to make increase possible from the colony? I have read a good deal about "shake swarming," taking out brood-combs, etc., but all of these methods seem to lack details in the telling that makes the operation doubtful of success for the novice.

In transferring brood-comb to another hive, what of the queen—where does the queen come in?

Would buying a queen, and introducing her to a nucleus of 2 or 3 frames of brood-comb with adhering bees, be the right way to do? or would it be better to move brood-combs with bees and queen, and allow the remaining bees to build queen-cells and hatch a new queen? Mrs. J. D. Black.

Albion, Ind., June 5.

You can increase with a clipped queen in any way you could if the queen were not clipped. In fact, it is easier when the queen is clipped, if you increase by natural swarming. When the colony swarms, instead of bothering to hive the swarm, perhaps climbing a tree to get it down, you pay no attention to the swarm. Just watch for the queen, and if you don't see her as she comes out of the hive you'll be likely to see her on the ground after the swarm is up in the air. Pick her up and put her in a cage. If you have no cage you can put a tumbler over her on a plate, but be sure not to set the plate in the sun unless you want to kill the queen. Set the old hive a yard or more away, put the new hive in its place, and then sit down comfortably and congratulate yourself that you don't have to climb for that swarm, which may be clustered away up high. Don't worry if it doesn't come back for 10 or 15 minutes; it will not fail to come back. Generally, however, it will not settle at all, but sail around in the air for a little while and then come straight to the new hive you have set on the old stand. When the bees have started into the hive, let out the queen to travel in with them—and there you are. About the easiest way to increase, if you have no objection to natural swarming. After the swarm has gone into the hive, set the old hive close beside it, and a week later move the old hive to a new place 2 yards or more away.

In transferring brood-combs to another hive, if you mean transferring from a box-hive to a movable-frame hive, you merely get all the bees from the box-hive into the new hive, and the queen will be among them, although you are not likely to see her.

You will get along faster if you buy the queen. In that case, it will be well

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to fasten the nucleus in its hive 2 or 3 days, otherwise too many bees will go back to their old home.

If, however, you prefer to let the bees rear their own queen, here's a good way to proceed: Take 2 or 3 frames of brood with adhering bees *and the queen* and put them into a hive on a new stand. Most of the force being left on the old stand, the strong force will produce good cells, ever so much better than a mere nucleus would. In 8 or 10 days you will let the hives swap places, taking all but 2 or 3 frames with adhering bees from the queenless hive and giving them to the queen. See that the frames left in the nucleus have one or several queen-cells, and destroy all queen-cells on the combs you give the queen.

If you have further questions, don't hesitate to call again.

Another Fairy Bee-Story

When the manufacturer of news wants something better than common upon which to build, he can hardly do better than to tell what some man can do with bees. Upon the smallest foundation of truth he can build and build until his superstructure is 'way out of sight in the clouds. But if you want to see the veracious reporter at his best, just let him get an inkling of what some woman has done, or is going to do, with bees; as witness the following from the Chicago Daily News:

QUEEN-BEES AT $200 EACH.

Two score Italian queen-bees, valued at from $50 to $200 each, arrived on Saturday on the steamship St. Paul. They are the property of Mrs. R. C. Riggs, of Kansas, who accompanied them.

Salerno, Italy, it seems, is headquarters for the finest variety of Italian queens, and thither Mrs. Riggs went for the express purpose of buying a number of these valuable little insects.

"The Italian queen," said Mrs. Riggs, in speaking of her purchase, "is much larger than the ordinary bee, and is of a beautiful light gold color. It is worth literally dozens of times its own weight in gold, because of its marvelous productivity. No other bee can compare with it in this respect."

Of course, having a valuable lot of merchandise in her possession—her new bees are valued at $1800—Mrs. Riggs wanted to have them insured. The average person wouldn't know where to go or what to do to get a swarm of bees insured, but Mrs. Riggs did. An Italian company assumed the risk for the tiny creatures on their voyage to America, so that her only danger lay in the journey between New York and Kansas.

"Of the tens of thousands of people who eat honey, or see bees flitting about among the clover blooms in summer," said Mrs. Riggs, "very few know anything of the trouble entailed in rearing bees, or realize the immense capital that is invested in apiculture. During the 16 years that I have been in the business, I have expended something like $125,000 on my apiaries. The returns, however, have been fairly large, as I market my honey in many cities.

"Bee-farming is not a business out of which the novice can expect to reap much of a harvest. People seem to think any fool can make money at bees. It isn't so. The theoretical and practical sides of apiculture must be thoroughly mastered if one is to succeed in it, and that takes many years.

"Incidentally, the bee-farmer must not be susceptible to the virus of the sting. Every one who handles bees, or is with them much, must expect necessarily to take a certain amount of stinging, and those who are constitutionally not fitted to stand it are seriously handicapped in the business.

Mrs. Riggs declares that she is absolutely immune. "And yet I have been stung hundreds of times at once," she says. "All my assistants are equally immune—in fact, I won't engage an employe permanently who is not."

One of the funny things about this whole business is that getting "stung" is supposed to be good for the "rheumatiz." Mrs. Riggs says she actually has people come to her—people who are tortured by rheumatism—who ask the privilege of placing themselves in the way of being badly stung. Of course, she is always willing to accommodate them.

"And, oddly enough," she laughed, in telling about the queer request, "I have known cases where getting stung really did relieve terrible attacks of the disease—at least, the sufferers declared it did, and they ought to know."

It would be interesting to know just how much basis there is for this remarkable story. Possibly there were 2 or 3 queens with a value of $2 to $5 each, and no one is likely to be more surprised then Mrs. Riggs to learn what large proportions her operations have assumed. Think of paying an average price of $90 each for 20 Italian queens! But that is only in keeping with the general outlay during 16 years—"something like $125,000." That averages annually $7,812.50, and to recoup herself for such an outlay, even if she made a profit of 7 cents on each pound of honey, she would have to produce each year a little more than 100,000 pounds. Strange that we should never have heard of these large crops before. And very likely the lady will herself echo, "Strange that *I* should never have heard of it before!"

BY W. A. PRYAL, Alden Station, Oakland, Calif.

Lungs—But Not of the Bee

Prof. Cook dilates upon lungs, in Gleanings of April 1st. Yes, California is a great State for lungs. But few who have real lung-trouble can expect to be cured by coming to the most favored portion of the State. Some may get relief for a time; better stay near home and get the treatment afforded by kind friends and dear relatives. Doctors tell us that any change is good for those thus afflicted for a time, but after a time when the patient becomes accustomed to the new climate, the system goes back, as it were, to where it was at the beginning of the "cure." I think the day will come when a remedy will be found to banish the lung-bacteria. And it will be one of the greatest boons given to man. And—but pardon me, I am getting away from bees, even if this subject may be excused as a reflection—not on the Professor nor on our climate—but as an observation on our breathing mechanism.

Church Candles of Beeswax, Etc.

How oft we go wrong when we try to write about the other fellow's religion. And it is hard to be helped, inasmuch as there are so many of 'em—both the fellows and the religions. But let us try to be careful—have due regard for our neighbor's creed, race and politics.

Once upon a time I had a newspaper detail that took me to the places of worship of Jew, gentile and heathen; priest, rabbi and minister, I had to interview. But this is neither here nor there. Of course, I had to "post up" in matters about the creeds and so forth. It has stood me in pretty good stead since. This is why I am making this reflection.

The other night in reading up on beeswax in one of the standard bee-books, I noticed a cut of a big candle under which was the title, "A Mammoth Candle for Sacramental Purposes"—a statement which is as incorrect as it is misleading. Candles may be used or lit during the administration of some of the sacraments in several of the churches, but they form no part of the service, that I am aware of. A lighted candle is used as a symbol; that and nothing more, so far as I know. Every Roman Catholic church uses one of these mammoth candles during a certain season of the year, commencing at the close of Lent. This reminds me that in a late number of Gleanings, the editor, in mentioning some of the uses to which beeswax is put, mentions that the Catholic and Greek churches use large numbers of them on the altars. This would lead the uninformed to believe that all the candles used in such churches were none other than beeswax. The law of the church calls for at least *two pure beeswax* candles to be lit on the altar during the offering of the mass. From this it may be seen that all others may be of any other material—sperm, tallow, etc. And the same writer further stated that wax-candles were used for the reason that they did not produce a smoke that was injurious to the ornamentation of the interior of the edifice. I do not know where the editor received his information; I know as a fact oil-lamps are used in country churches; in the city gas is the usual illuminant along with electricity

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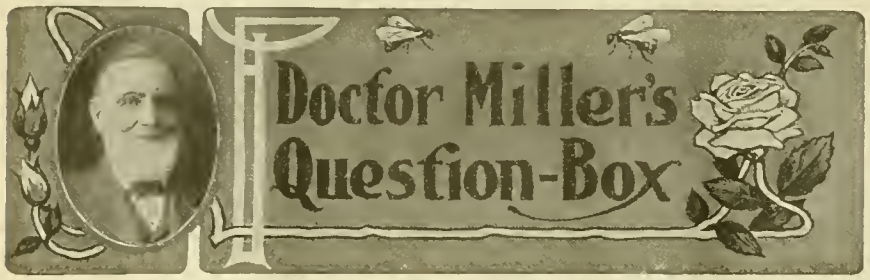
where the latter is procurable. Gas, in time, smokes up a church badly; still, it is used universally, showing that candles are not demanded.

If one is of an investigating mind, he will find that in some churches, what appear to be candles are nothing more than porcelain made in immitation of a candle. A small gas-tip or burner is set where the wick should be. If all the Roman Catholic, Greek and some forms of the Episcopal church were to use beeswax-candles exclusively during their services, there would not be sufficient wax produced to supply the demand. And, perhaps, it is well they don't, for it would, to my mind, be a useless waste of good material—a product demanded for use in the arts and sciences. The church seemed to recognize this fact, hence the minimum limit of two candles at he sacred service.

Durable Top-Bar Ends

In examining a lot of colonies this spring, I found that a lot of the end-bars had decayed. This made it awkward to handle frames so injured. It was almost as bad as lifting a large basket full of eggs and the basket handleless. You have a dread all the time that something is going to fall. I find that Eastern (white) pine and a Western spruce were the woods most susceptible to rot. Oregon pine stood the moisture better than I supposed. I believe redwood will not rot, but it is too brittle, though. Patrick Keating uses it. Give me Oregon pine, for it is almost as hard and durable as oak.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Something Historical About Bees

1. Mr. Leonard Chester and Rev. Henry Smith died in 1648. In the inventory of their estates bees were valued at £8 in each case. James Boosey died in 1650. In the inventory of his estate 11 "skipps" of bees were valued at £9. Comparative: Horses £12 each, and cows £5 each.

2. Were bees always here, or were they imported? If so, when? CONNECTICUT.

ANSWERS.—1. Just as you state it, one cannot tell for certain whether it took 11 "skipps" to be worth ¾ as much as a horse, or only 1 "skipp." If the former, bees were not rated very differently from today; if the latter, bees were away up.

2. In the latest edition of Dadant's Langstroth, page 289, is the following:

"Thomas Jefferson, in his 'Notes on Virginia,' says: 'The honey-bee is not a native of our country. The Indians concur with us in the tradition that it was brought from Europe; but when, and by whom, we know not. The bees have generally extended themselves into the country, a little in advance of the white settlers. The Indians, therefore, call them the white man's fly.'

"According to the quotations of the American Bee Journal common bees were imported into Florida by the Spaniards previous to 1763, for they were first noticed in west Florida in that year. They appeared in Kentucky in 1780, in New York in 1703, and west of the Mississippi in 1797." In 1857 they were taken to California.

So you see that the account you give antedates anything given in the book quoted by more than a century, making it a very interesting item.

Driving Out Drones — Preventing Swarming—Hive-Ventilation, Etc.

1. I want to ask a few simple questions and give a few points for beginners to observe. First, when the drones are being run out and killed off in early spring, it is conclusive evidence of a honey-dearth, or continued bad weather, and it is well to begin feeding at once.

2. I think there are only 2 points to be observed to prevent swarming, viz., plenty of laying space for the queen by giving empty combs when needed, and super-room for the bees to prevent crowding.

3. As we are not prohibited from reading the "Sisters' Department," I am inclined to disagree with Miss Wilson in regard to ventilation by opening the back door at the top of the brood-nest (pages 451-2), for in a climate of hot days and cool nights the brood is liable to take a bad cold with the back door left open over night.

4. Why will a deusely populated colony with a young queen in the cell, on being given 2 frames, with ¼-inch starter, refuse to draw out the foundation, but proceed to build drone-comb in a frame with a starter?

5. When the bees are vigorously fanning with their heads to the entrance, which is accomplished, cool air driven in or hot air being drawn out?

I will offer a possible solution to "Iowa," page 469. Perhaps something in the wood the shingles are composed of attractive to the bees causes them to work through the cracks made by shrinkage. We will not credit the idea of their going down the chimney to get into the house unless some old comb should have been thrown into the fireplace with little fire. ARKANSAS.

ANSWERS.—1. Yes, if drones are driven out any time before the close of the season it is well to inquire whether stores are short. Sometimes, however, drones are driven out when plenty of honey is in the hive and the season is not yet far advanced, especially if the bees have reared a new queen.

4. Yes, crowding either the brood or the surplus apartment is generally agreed to favor swarming, but most bee-keepers would at least add to this the matter of heat and lack of ventilation.

3. If you know of any case where harm was done by doing as directed, I wish you would give particulars. The instructions were given for extracted honey, and we don't run for extracted honey here, but in hundreds and hundreds of cases we have given such ventilation to colonies working in sections, and I never knew of brood being injured by it.

4. With a virgin in its cell the bees seem to know that drones are of the utmost importance, and so they are anxious for drone-comb.

5. When I have put the back of my hand near the entrance it has always felt as if the current were toward my hand, and so drawn out of the hive.

Vicious Bees—Perhaps Absconding

1. On May 20, W. R. Burden and I cut down a bee-tree and found the queen and placed her in a hive and brought them home, and on the next day the bees all came out and began stinging everything within 200 yards of the hive. They killed 2 hens in a coop 30 yards from the hive, stung people 200 or 300 yards away, and were trying to settle all the time, but did not. They settled down or went back in 3 or 4 hours and have been working some, and now have 3 pieces of comb about 6x8 inches. What was the matter with them?

2. In the spring of 1906 I had a nice swarm of bees come out. I hived them in a new hive and they worked fine. They carried in a great deal of pollen. In 7 weeks they sent out a swarm, and in 10 days, on examining I did not find a bee in that hive that sent out the last swarm. The first swarm I hived lay out around the entrance and the hive was full of nice comb. No moth-worms when I noticed it, and no bees in it. Did the bees all come out, or did they die, or what was the matter?

3. What is meant by "W. K. M." in "Stray Straws" in Gleanings?
KENTUCKY.

ANSWERS.—Evidently those bees were of a very vicious disposition, and beyond that it is hard to say why they were on such a special rampage. It is barely possible that there was some robbing going on, making them worse, but one can only guess why they should swarm out.

2. Again you've given me a nut harder than I can crack. It seems to be a case of absconding rather than swarming. As I understand it, the bees left the hive, bag and baggage, 7 weeks after they had been hived as a swarm. It is very unusual for bees to desert a hive after fairly getting to work in it, but sometimes they do. Whether too hot, or lacking in food, or what may have been the cause in this particular case, is more than I can guess.

3. "W. K. M." are the initials of W. K. Morrison, one of the assistant editors of Gleanings.

When Bees are Gathering—Best Race of Bees—Bees Starving, Etc.

1. Is there any way one can tell when bees are gathering by the appearance when they come in from the field? My bees seem to come in heavily loaded, but there is nothing in bloom except dandelion and strawberries.

2. Do they gather much from other plants?

3. What race of bees do you think is best for the production of comb honey?

4. One of my neighbors says his bees are bringing out lots of young larvæ on the alighting board. Why? Some say it is chilled brood. We have had it fearfully cold here this month.

5. Do bees that gather pollen gather honey also, or are there two classes?

6. Since writing the above today (June 2) I notice the bees are coming in so heavily loaded that they drop before they reach the alighting board. They do not seem to be on dandelion. What can it be? Is it a sign that they are gathering?
MAINE.

ANSWERS.—1. If they are seen carrying in pollen, they are generally carrying in nectar also. When the harvest is plentiful some of the bees are likely to drop down in front of the hive, apparently resting a while before starting up again. You can catch a bee returning to the hive and find whether it is carrying in nectar or only water.

2. In some places dandelions are so scarce as to be of no great importance. In others they are plenty and of great value.

I understand they were introduced into this locality about 60 years ago, none having been here before that time. When I first came here they were hardly worth considering; now I prize them highly. True, I have never obtained surplus from them, but they are of the greatest value in being turned into brood, and they come just at the right time for that. If I could have in July or August the 2 weeks or more of dandelion bloom I had this year in its usual time, I think I could have a lot of surplus from it. But at the time dandelion blooms there are not enough field-bees to do more than supply the enormous amount used in brood-rearing.

It may be that in some places strawberries yield well, but they are very plentiful here and I have seldom seen bees on them.

(P. S.—My brother-in-law says that on this very day bees are as thick on them as he ever saw them on buckwheat.)

3. So far as yet known, Italians probably have the general preference.

4. I am afraid it may be because they are short of stores. Possibly, however, it's only drone-brood, which they sometimes carry out when a spell of unfavorable weather comes, even when there is plenty of honey in the hive.

5. I don't think there are two separate classes. A fielder may gather nectar and no pollen; she may gather both; perhaps only pollen; yet the same bee never gathers both on the same trip. A bee may change its work on the same day, for sometimes you will see a large proportion of the bees carrying pollen in the morning and very few carrying pollen in the afternoon.

6. Looks pretty sure they're gathering, but I couldn't guess from what.

Numbering Colonies—Sweet Clover Honey—Sowing Sweet Clover—Carniolans or Italians?

What is your system of hive numbering and queen record? Today No. 5 swarmed (golden Italian queen), was hived on the old stand; now, should the old hive's number be taken off and placed on the new swarm and a new number given the old colony?

2. In Gleanings you spoke of your full combs of sweet clover honey and said you counted it as just so many pounds of white clover honey this season. Why not use dummies when the honey-flow opens, or better still, why not use the Danzenbaker hive and have all frames full of brood at the beginning of the honey-flow?

3. Would not that sweet clover honey have sold for as much money as white clover honey had they been extracted?

4. When is the best time to sow sweet clover seed to get a stand?

5. Which are the best workers, Carniolans or Italians?

6. Which are best for extracted honey?

MISSOURI.

ANSWERS.—1. A small square of tin is painted white, and on this is painted in black the number. This tag is fastened on the hive by a small wire nail. The numbers run in numerical order in the rows, the same number always being on the same stand; so if No. 5 is moved to a new stand its number is changed, and any hive put in place of No. 5 will receive the tag taken from No. 5. Each year a new record book is used, the same being about 12 by 5 or 6 inches, 3 colonies to the page.

2. You must have misunderstood what I said, for I do not think I ever had a comb filled with sweet-clover honey. I have had honey that I thought was flavored with sweet clover, giving to white clover something of a vanilla flavor, which I think an improvement. I had a goodly number of frames filled with fall honey last fall, which I have been giving to the bees this year. I mentioned those combs, but I didn't say they were of sweet clover; but I said something about yellow sweet clover in another place that perhaps you have mixed up with these combs of fall honey. I said I had never valued specially the fact that yellow sweet clover was 2 to 4 weeks earlier than white sweet clover, because that made it come right in the time of white clover; but I had changed my mind about it, for last year white clover didn't yield any honey, and if I had had a lot of yellow sweet clover yielding early it would have been a boon. But I didn't have the yellow sweet clover.

You ask why I don't use dummies when the honey-flow opens. For more than one reason, but one will be enough. I suspect that you imagine that at the beginning of the honey-flow one or more empty frames are in the hive and that if I take out those empty frames and put dummies in place the honey that would go into the empty frames will be forced into the sections. That is an erroneous supposition. If I took out frames to replace with dummies I would have to take out frames of brood, or else take out the outside frame largely filled with pollen. Each frame, however, has more or less empty cells around the border, generally, when the flow begins, and if, a little before this time, I put in the center of the hive a solid frame of honey, the bees will empty this honey to replace it with brood, and this honey will be used to fill any vacant cells around the borders.

I don't quite understand your remark about using the Danzenbaker hive to get all frames full of brood. No hive fills frames with brood, and in this respect the Danzenbaker has no advantage over the dovetailed.

3. I don't know; but then you remember I had no sweet-clover honey, unless it was mixed with other honey. If I had extracted those combs I'm sure the honey would not have sold for as much as white-clover extracted, much less for as much as the white-clover sections that it may afford.

4. Either in spring or fall. Early spring is preferable.

5. Probably there isn't much difference. The Carniolans have the reputation of being the best swarmers.

6. They are probably much alike.

Reports and Experiences

First White Clover Bloom.

Bees are swarming in this locality and new swarms starving. I saw white clover in bloom today for the first time this season. P. F. CONKLIN.

Elmira, N. Y., June 14.

Heavy Loss of Bees.

There is a very heavy loss of bees in this county this year, some losing 75 per cent. I have lost fifty colonies, and what are left are very weak and will need most of the season to build up. EDW. MCCOY.

Lima, N. Y., June 10.

Vine-Maple Honey.

I extracted 4½ gallons of honey last week from one colony. It was all maple, or, I should have said, vine-maple, of a light amber color. Its flavor is excellent. I had 50 colonies spring count.

CHAS. W. HOPSECGER.

Clear Lake, Wash., June 4.

Hope for Honey Yet.

On account of an accident to my left foot I lost half of my bees this spring. Then, the spring was very late and cold, so that the bees could not fly; still I have twelve colonies left, and yesterday I had the first swarm. If the weather now stays warm there is hope for some honey yet.

PETER WEHMEYER.

Rosebud, Mo., June 14.

Unusual Weather.

We are having very unusual weather here that takes all the enthusiasm out of one. I never have seen a season like it in my 30 years' experience. I will have *some* honey, but the weather conditions keep one in doubt. I am thinking of tiering up a few colonies today, but to what purpose I can't tell. A. H. NOBLE, SR.

Nashville, Tenn., June 7.

Bees in Fine Shape.

I placed 131 colonies in the cellar last fall, and set out 131 this spring, all in fine shape as far as I could see, but since then I have found 3 without queens. I united them with the poorest colonies I could find in the yard. The best I ever did before was to winter 90 per cent. I have made no changes from former winters, and at this writing my bees are very strong, but it has been one of the worst springs I ever knew. Only about 1 day in 5 could bees fly since April came in, and I have made up my mind it is better, as they do not get lost if they cannot leave the hive. I never had them build up so fast. I have had several swarms and I have to give each one frame of honey or they must die, as I have had them hived 10 days and they have not been out of the hive except a part of 3 days.

I see they are killing off the drones—not a good sign, but I have seen it before and it turned out to be a good season. I always have a few swarms issue before I put on the supers, but few after, until late in the season; about the time the honey-flow stops. Then sometimes a few will swarm. I must stop now and go out into the yard for the sun begins to put forth his rays, and I want to look at it once more.

C. M. LINCOLN.

West Rupert, Vt., June 10.

Bees in Fine Shape.

My bees are in fine shape in spite of the cold, backward spring. My first swarm issued yesterday; a rousing one, too. I have 34 colonies—did not lose one in wintering.

The American Bee Journal is one of the things I don't feel able to do without.

S. E. SCOFIELD

Enosburg Falls, Vt., June 12.

Short Honey Crop Expected.

Our bees have had a hard struggle to get up to the month of June, but are doing fairly well now. Most of the bee-keepers in this part of the country have lost a great many bees on account of the late, cool spring. There seemed to be nothing for them. I have had 18 swarms; they build my apiary up to 60 colonies. I think the prospect bids fair for a short honey crop. J. D. PASLAY.

Groesbeck, Tex., June 2.

Backward Spring.

My bees came out of winter quarters without the loss of any. The spring has been backward. I hear my neighbors say that they have spring dwindling. I saved my bees by feeding and exchanging combs to equalize them. I think we have a good show for clover honey if the weather is favorable.

Success to the "Old Reliable."

JOHN CLINE.

Darlington, Wis., June 6.

Black vs. Yellow Queens.

It seems that the black or hybrid queens have more instinct for self-preservation than the yellow races of bees. The little black queens are up to all sorts of dodges to keep out of sight. One is, to fly as soon as the comb is lifted out and be gone several minutes. I have had 2 such queens. To catch such, move her home, and put another colony where her home was; on her return she is balled and killed. Or you can hunt her out by the ducking process.

ALVAH REYNOLDS.

Altona, Ill., June 6.

Plain vs. Self-Spacing Frames.

In reply to the editorial of June 6, and in behalf of Mr. Hutchinson, I will give the bee-men a "piece of my mind." For rapid handling and extracting, a self-spacing frame is not "in it" with the plain all-wood frame, or one made on that pattern.

I have run 4 apiaries with a total of 500 colonies, almost entirely for extracted honey, and my points are as follows:

1. I want a frame that is light, and not to exceed ⅞ inches in thickness, so that when uncapping the comb can be trimmed to a level with the frame, thus permitting

American Bee Journal

faster work, increasing the wax-production, making a comb that the honey can be extracted from more readily, and causing the bees to build out a cell of new wax, and thus somewhat improving the quality of the honey.

The dark combs do not impair the grade of honey very much, and, when used this way, very nearly equal new-drawn combs. If one expects to uncap 250 to 350 gallons of good, ripe honey in a day's time, he will have no time to waste in looking out for spacing devices of any kind, or sharpening uncapping knives. That is the quantity I generally figure for a day's run with a man and boy in the yard to do the "robbing," a man to run a 4-frame extractor, and a man to uncap and look after the combs in the house.

2. I want all the frames in the hive alike, so that I can change them to any part and use them for any purpose, and I have never had a man in the yard for any length of time that favored a spacing device of any kind.

As for their advantage, a beginner or a man working for comb honey might like the self-spacing frame, but I use the plain for both comb and extracted honey, and have never suffered any loss from moving. I have hauled bees around considerably, and do not fasten the frames, as the bees will cluster tight enough to hold them as soon as the jar of the wagon commences.

Of course this is a matter of "every man to his liking," but a good way to get at the practicability of the two kinds of frames would be to get the statements of about 100 bee-keepers who handle 300 or more colonies of bees, and see if the most use plain or self-spacing frames.

EDWARD G. BROWN.

Sergeant Bluff, Iowa, June 10.

Favorable Conditions for Bees.

Conditions are favorable here for a great honey-flow if it ever stops raining, as catalpa is just beginning to bloom and persimmon will soon come along. Besides, there is clover in bloom everywhere and it is yielding very well this year. There are also great patches of yellow sweet clover scattered here and there that are blooming, and the white sweet clover is showing in considerable quantities, which promises to furnish enough to keep up brood-rearing after the early flow is gone, so that our bees can take full advantage of our fall flow, which is the greatest of our flows here. But with the bees it has been different, as hundreds of colonies have been lost, especially among the farmers, many of whom lost every colony they had. But with the professional bee-keeper it is also different. They lost few by starvation this winter, as they had hives that they could get among the bees to see the exact condition and to feed if necessary.

Such, in brief, is the condition here—plenty of flowers and yielding well, but bees scarce through the ravages of the terrible winter and spring. I lost 6 colonies by thieves that got into my out-yard, and I by starvation. Three were queenless and I united them with weak colonies to help them along. JULIUS HAPPEL.

Evansville, Ind., June 5.

ITALIAN QUEENS

Fine young prolific 3 and 5 banded Italian Queens, by return mail. Untested only 60c, or $6.50 a dozen. Tested, 75c or $8 a dozen. Extra fine queen, $1.

26—28 J. L. Fajen, ALMA, MO.

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ITALIAN BEES FOR SALE

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BERT GANDER,

23A4t PANORA, IOWA.

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J. P. Moore or my own strain. My apiary is stocked with thousands of choice drones that are not kin to my breeding queens.

Queens, $1 each; dozen, $10

I guarantee satisfaction, and superior honey-gatherers. W. M. Parrish,

23Atf R. R. No. 8. LAWRENCE, KAN.

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15A26t Box 340. Norwalk, Ohio.

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Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices. I give the regular discounts. Beeswax wanted. Send for Catalog.

6Etf W. J. McCARTY, Emmetsburg, Iowa.

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New Steamer Cayuga

Makes More Popular the Lake Trip from Lewiston, N. Y., to Toronto

The Fleet of the Niagara Navigation Company has, this season, been increased by a new steel twin screw ship, which, in speed, comfort and beauty is unsurpassed upon the great lakes. Her name, "Cayuga," has been selected to harmonize with her sister ships, the "Chippewa," "Corona" and "Chicora."

The full service of this line consists of six trips daily except Sunday.

The steamers are essentially observation day boats, and have the reputation of being most admirably adapted for the service.

Excellent Table d'Hote meals are served, and each steamer is also equipped with lunch counters, where sandwiches, pastry, tea, coffee, etc., may be obtained. It is the endeavor of the Company to make the dining-room department first-class in every respect.

Coupon ticket agents of all railroads in the United States and Canada sell tickets via the Niagara Navigation Company.

The Niagara-Toronto Route

The Niagara Navigation Company, Limited, popularly known as the Niagara River Line, consists of four fine, fast, steel steamers, making, at the height of the season, six round trips daily (Sunday excepted) between Toronto, Ont., and Lewiston, N. Y., via Lake Ontario and the Niagara River, calling at Niagara-on-the-Lake, Ont., and Queenstown, Ont. The trip occupies about two hours and a half.

Queens of Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the Bee-Keepers' Review, Flint, Mich., says: "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen."

My queens are all bred from my best long-tongued 3-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested Queens, $1 each; six, 5; doz., $9. Select, untested, $1 25 each; six, $6; doz., $11.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address,

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Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

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17A13t Mention the Bee Journal

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28Etf Please mention the Bee Journal.

Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

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The above prices deliver Smoker at your post-office free. We send circular if requested.

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Because the bees like it best and accept it more readily.

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We are now ready to make prices for next season for WORKING WAX for CASH and for full line of Supplies. Wholesale and Retail. **Free Catalog and Samples.**

GUS DITTMER, Augusta, Wis.

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Bee-keepers have long needed a special tool to aid them in properly manipulating the hive-parts during the bee-season. The one shown here does the work to perfection.

Best Hive-Tool

Only 30c. by mail

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DESCRIPTION.—The Ideal Hive-Tool is made of high-grade malleable iron, much like wrought iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1⅝ inches long, ½ inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped, having a sharp semi-circular edge, making it almost perfect for prying up supers, as it does not mar the wood.

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Louis C. Dadant (son of C. P. Dadant) wrote us May 10, 1907: "Your Hive-Tool is certainly the best on the market, and after having used one of them no bee-keeper would do without it."

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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Warranted "	.75 "	7.00 "	
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Choice home-bred and imported stock. All Queens reared in full colonies.

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Untested in May. All others ready now from last season's rearing. Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

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It costs you only 75 cents, postpaid.

Unless you enjoy being stung while handling bees, send for this veil **to-day.**

Send for our catalog, free.

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You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
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A Special Discount on Early Orders.

Let me book Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, and CAUCASIANS.

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, June 8.—Not any of the honey yield of 1907 has appeared on this market, and with the choice white grades of last year's comb being exhausted there is practically nothing to base values on other than that of history, for there is always a limited demand for honey. New white comb of good flavor would sell at 16c; no demand for other grades. Extracted is also exhausted of best grade. Beeswax is selling on arrival at 32c. R. A. BURNETT & Co.

CINCINNATI, May 23.—There is no material change in the honey market at this writing. Extracted honey is not moving so rapidly as it could, owing to the cool weather. We quote amber in barrels at 5½@6½c; fancy table honey in crates of two 60-pound cans at 8@9c. For choice, yellow beeswax, free from dirt, we are paying 31c cash, delivered here.
THE FRED W. MUTH CO.

PHILADELPHIA, June 10.—The honey market has been quite brisk for this time of the year. A number of odd lots have been cleaned out of the market. We quote: Fancy comb, 14@15c; No. 1, 13@14c; amber, 12@13c. Fancy white extracted, 7@8c; light amber, 6@7c. Beeswax firm, 32c.
We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 21.—White comb honey is practically cleaned up, and there is very little demand at this time. There is some dark and mixed comb on the market, but no demand to speak of, and some of this will have to be carried over until next season, or sold at a sacrifice. Therefore we cannot encourage shipments of off-grades or dark honey at this time. Extracted honey is in fair demand and prices are ruling firm. There is very little new crop arriving as yet from the South, and while it is rather early, we doubt whether we will have any large shipments from the Southern States this season, as we fear there will be a short crop, judging from the reports we are receiving. There is quite a good stock of last year's crop still on the market, sufficient to last until the new crop from various states arrives. There is no change in price as to extracted honey since our last. Beeswax firm and likely to remain so for the next 2 months.
HILDRETH & SEGELKEN.

INDIANAPOLIS, June 19.—There is a strong demand for fancy white comb and best grades of extracted honey, but the market is practically bare at this writing. Evidently a new scale of prices will be established on arrival of new crop. Beeswax is plentiful and in fair demand, selling here at $35 per 100 pounds.
WALTER S. POUDER.

TOLEDO, May 3.—There is very little demand for comb honey as is usually the case at this season of the year. Fancy white would bring in a retail way 16@17c; No. 1, 15@16c, with no demand for dark honey. Extracted is very scarce and none being offered for sale. Beeswax is bringing 28c.
THE GRIGGS BROS. & NICHOLS CO.

KANSAS CITY, June 1.—The honey market is almost bare of comb honey, and demand good; receipts of extracted are light, and demand light; we quote: No. 1 white comb, 24-section cases, $3.25; No. 2, white and amber, $2.50@$2.75. Extracted, white, per pound, 8c; amber, 7@7½c. Beeswax, 30c, C. C. CLEMONS & Co.

DENVER, Feb. 14.—Producers in this State are practically closed out of both comb and extracted honey. We have not sufficient good comb honey to supply our local trade, but have a good supply of white extracted of excellent quality. We quote strictly No. 1 white comb honey, per case of 24 sections, at $3.20; No. 1, light amber, $3; and good No. 2, $2.80. White extracted, 8@8½c per pound; light amber, 7¾@8c. Clean, yellow beeswax, 27@28c, delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, June 18.—The market on fancy white comb is entirely bare. No. 2 is selling slowly at 12c. Extracted, light amber, brings 5½@6c. Beeswax is selling here at $32 per 100 pounds. C. H. W. WEBER.

FOR SALE

1000 sixty-pound CANS. A No. 1 condition, packed two in a case. Cases also first-class. Will sell them cheap.

Michigan White Clover Honey Co.
29 Woodbridge St., West,
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Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.
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47TH YEAR

No 27

AMERICAN BEE JOURNAL

JULY —— 1907

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

IMPORTANT NOTICE.

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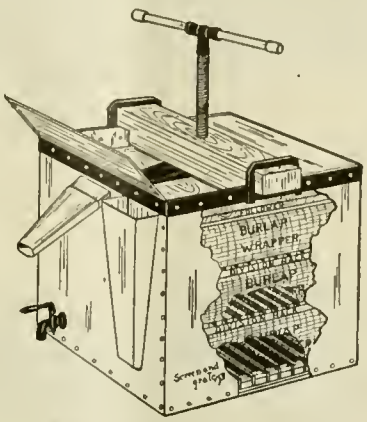

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By the Bee-Crank

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American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

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Contractors' and Builders' Supplies
Including All Kinds of Window Glass
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Freeport, Ill., June 11, 1907.

The A. I. Root Co.,
Medina, O.

Gentlemen:

I received five of your AE52S–10 hives yesterday and find that I cannot make my own hives and supplies as cheap as yours and use the same quality of lumber. You can see by the head of this letter that if anyone can make hives cheaper than your prices or any of the so–called "trust hive" manufacturers, I ought to be able to do it, but using the same quality of lumber I cannot.

Yours very truly,
(Signed) John H. Bamberger.

☞ The above is a representative letter from the many we have to the effect that our hives and other supplies can be purchased cheaper than a local mill can possibly make them. Our enormous output enables us to reduce the cost to the minimum without sacrificing quality.

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THE A. I. ROOT CO., Medina, Ohio

(Application made for entry as second-class mail-matter at Chicago, Ill., Post-Office.)

Published Monthly at 25 cts. a Year. by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | CHICAGO, ILL., JULY, 1907 | Vol. XLVII—No. 27

Editorial Notes and Comments

Get a Text-Book on Bees

No better advice can be given to a beginner in bee-keeping, or to one who contemplates beginning, than to tell him to get a text-book on bee-keeping, a book of instruction about bees and their management. The study of such a book will give him more knowledge than he would gain in years of actual practice without any such help. The one who gets a bee-paper, thinking to depend alone upon that, is making a great mistake. Much of what is contained in the periodical will be blind to him, as the readers of bee-periodicals are supposed to know what is contained in the text-books, and a constant repetition of fundamental principles would not be relished by them. It is to the interest of the American Bee Journal to have as many subscribers as possible, but if you can not have both the book and the paper, be sure to get the book first.

Plan Now For Surplus Honey

Not surplus honey to use on the table or to sell; but sealed combs of honey to give to the bees next spring. It is not likely they will be needed as much next year as they were this, but there's no knowing; and the old saying is a good one, "Better be ready and not go, than to go and not be ready." In any case you may be pretty certain that whatever the season next year, you can dispose of a number of such combs to good advantage. Enormous quantities of honey are used up in rearing brood. Nothing strange about that, either. It is not merely the material used to fill the brood-cells; we are told that the nurse-bees use more for their own support than they feed to the brood. If honey is not present in abundance, the bees seem to know enough to limit the amount of brood started, and so do not enter the period of harvest in full strength. Hence, the importance of extra combs in the early season, especially with small hives.

One way to provide such combs of honey is to have a part of all of the fall honey thus stored. Localities differ greatly in this respect; in some the fall flow being the chief harvest, in some there being no fall flow to speak of. Where one can not rely quite confidently on this fall flow, either part of the honey stored by each colony should be in these sealed combs, or else part of the colonies should be devoted entirely to such purpose. The best time to decide in what way provision shall be made to meet the case next spring is now, if the decision has not already been made.

When to Give a Super to a Swarm

If the surplus apartment or super is removed from the old hive and given to the swarm immediately upon the hiving of the latter, the queen is likely to begin laying in the super if no queen-excluder prevents. Either use an excluder, or wait till the queen gets to work in the brood-chamber (perhaps 2 or 3 days) before changing the super from the old hive to the swarm.

Keeping the Queen Out of Sections

Some find it necessary to have queen-excluders under section-supers to avoid the disagreeable occurrence of brood in sections. Others say it is so rare a thing to find the queen straying into the surplus apartment that it is not worth while to have the trouble of excluders, to say nothing of the expense. The secret of the difference probably lies in the fact that one uses small starters in the sections and the other fills the sections with foundation. When small starters are used, and little drone-comb in the brood-chamber, the desire for drone-brood causes the bees to build drone-comb in the sections, and the queen to go up and lay there. If the sections are filled with worker-foundation, no drone-comb can be built there, hence no enticing of the queen out of the brood-chamber.

Prevention of Second Swarms

Usually it is not best to have any more than one swarm from each colony. Also, if honey be the object, it is better to make the swarm as strong as possible, depending upon the swarm for surplus. When the swarm is hived, if it be set on the old stand and the old hive be put on a new stand 10 feet or so distant, that will give the swarm all the field-force, and will often prevent further swarming. A still better plan, although a little more trouble, is the following:

Set the swarm on the old stand, and set the old hive close beside it, both hives facing in the same direction as the old hive faced. In 7 days, move the old hive to a new place some 10 feet away. The field-bees that leave the old hive will, on their return, go straight to the old stand, and not finding their own hive there will join the swarm. That will so weaken the mother colony that all thought of further swarming will be given up. Not only does the weakening tend in this direction, but also the fact that no honey is being brought in, and the provident creatures do not think it wise to swarm with starvation staring them in the face.

"We Be(e) Brethren."

It speaks well for bee-keepers in general that a more brotherly feeling among them is growing all over the world. American bee-keepers owe much to the patient researches of their eminent brethren in Europe. On the other hand, European bee-keepers are increasingly alert to pick up any good thing that

American Bee Journal

may be found on this side the water, and they are frank to give, generally, proper credit. Dr. Bruennich, a very prominent Swiss authority, is quoted by F. Greiner as scoring American bee-keepers for their kindergarten position in the matter of queen-rearing, page 455. Whether such criticism is properly deserved or not, it is quoted to mention the fact that a man who could be thus severe where he supposed it deserved, is also large-hearted enough to offer commendation when he thought it deserved, as he did when he mentioned our G. M. Doolittle as a man whom he held in highest esteem as one of the foremost leaders in the world apicultural.

It may not be amiss to say to Dr. Bruennich that conditions are not precisely the same here as in Switzerland. So far as they have been tried, it seems that the general consensus of opinion is that in that country no foreign bees can compare with the natives. That being the case it is the part of wisdom to exclude the foreigners and bend all energies to bring the natives to the highest state of perfection. But in this country there is a greater unanimity of opinion than in Switzerland, even, that opinion being that black bees are *not* the best for us; and so long as it is settled that the favorite must be a foreigner, and so long as there are foreigners yet untried, why not try them?

Scissors for Queen-Clipping

For this purpose a pair of small embroidery scissors has been the favorite, but of late a pair of ordinary pocket scissors has been commended. These may be carried in the pocket safely the year 'round, their blunt points allowing them to be carried in trousers' pockets when the heat forbids the wearing of coat or vest. Some who have tried them claim that they are even superior to embroidery scissors.

Signs of Swarming

Entire dependence can not be placed upon any outside signs. Look inside; if no queen-cells are started, the bees have not yet taken under advisement the matter of swarming. If cells are started, you may expect the bees to swarm with the old queen about the time the first queen-cell is sealed. If a second swarm issues, you may expect it in the neighborhood of 8 days after the first swarm. If a second swarm does not issue within 15 days after the first, you need not watch any longer for it.

Dandelion as a Honey-Plant

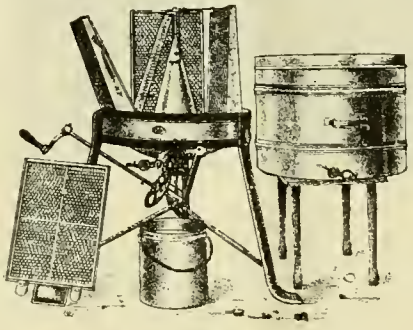
Gleanings for June 15 occupies no small space in singing the praises of the dandelion as a honey-plant, a valuable spring greens, its root-yielding the valuable medicine taraxacum, as valuable cow-pasture, and as a plant with a flower of rare beauty, although unappreciated because so common.

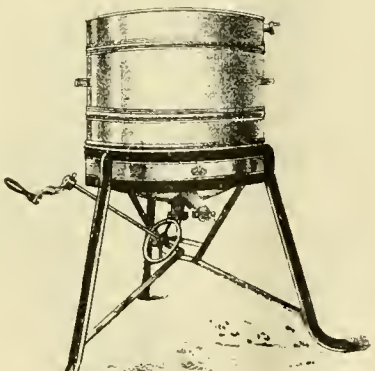
Regarding the same plant the following note has been sent to this office by Dr. Miller:

"In this region the dandelion is a honey plant of increasing importance. I am told that the plant was unknown here 60 years ago. I know that it was scarce when I came here in 1856, but it has been gradually increasing each year, much to the distress of lawn-owners, and this year it is plentier than ever before. It first began blooming April 23, and 2 months later the bees are still working on it to a small extent. If colonies had been in full strength when dandelion was at its best, there is little doubt that surplus would have been stored from it. Only one more week left of June, and bees seem mostly occupied trying to rob, so the present outlook is for another season of failure."

The Mohr Extractor — A Swiss Invention

All the honey-extractors known up to the present time are inconvenient, owing to the disposition of the comb-baskets, which are placed at the lower part of the rotating cylinder. It is thus





difficult to reach the combs with the hand. It is always unpleasant to place them in and to turn them over. The work is disagreeable, for it is almost impossible to do it without soiling yourself. This extractor claims to do away with this inconvenience. The comb-baskets are placed in an open frame which can be laid back. The gearing is placed at the bottom. The bottom of the extractor is conical, which permits the honey to run out rapidly.

Two Queens in a Hive

Seed Time and Harvest quotes approvingly from Gleanings the plan of having 2 or more laying queens in a hive, given by E. W. Alexander, and then says:

"The worst feature to overcome in giving our colonies 2 or more laying queens is in knowing how to introduce them safely.

"Mr. A. does not give his method of introducing queens, but we will give ours. Our theory is that the antagonism shown by bees to a newly introduced queen is mainly on account of her scent, and for years the writer has successfully introduced queens, without caging, at the same time the old one was removed, by dropping the stranger in a tea-cup partly filled with honey, taken from that hive, and completely submerging her in it, after thinning with warm water if necessary, then pouring the whole into the center of the top of the hive. The bees will almost invariably proceed to lick her off and accept her without question; and according to Mr. A. it might not be necessary to remove the old queen in order to succeed."

It is no wonder that bee-keepers are set guessing as to how much a hitherto unbelievable thing can be done; but the guess of the Seed Time and Harvest does not seem the most plausible. Generally speaking, a new queen is better received when the colony is conscious of queenlessness. In the present case a queen is to be introduced where there is no thought of queenlessness, and so an unusually reliable method of introduction is needed. The method suggested is very old, and in many cases is successful, as indeed almost any plan is successful under favorable circumstances, but it has generally been abandoned as less reliable than the caging method. The guess will hardly pass muster. Next!

Better Top-Protection

Editor Root is enthusiastic over the advantage of having something more than a single thickness of board over a hive or a super. Some 20 years ago D. A. Jones called his attention to a row of hives the covers of which were covered with white frost except oval spots over the centers of the clusters, the stronger the colony the larger the melted spot. That set Mr. Root to thinking that the heat wasted in melting these spots might be saved if the covers were non-conductors of heat. He says:

"Quite a number of the bee-keepers of the country are beginning to use double covers.

"R. F. Holtermann and Dr. C. C. Miller are both strong advocates of such covers. The former uses an extra piece of paper felting between the two covers. Dr. Miller uses only two thicknesses of ⅜ boards with a dead-air space between. While this is good, it does not go quite far enough. Should we have a cool summer, and especially if we should have cool nights, there will be a lot of backward work in the supers unless the bees are provided with a good thick cover.

"Those bee-keepers who are fortunate enough to own a double cover, one telescoping over the other, should place between the two covers several folds of newspaper. Those who are still more fortunate in having a deep telescope cover would do well to interpose be-

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tween the two some newspapers with the ends falling over the sides and ends; then shove a telescope cover snugly over the whole.

"But there will be some who will find themselves without these telescope covers. All such we would advise securing some large squares of heavy manilla paper. Fold the old newspapers over the top of the regular hive-cover; then, with the help of any attendant, fold one of the squares of manilla papers centrally over the top. Tuck the edges neatly down over the super as you would a package of soap, and then tie a string around it, looping it into a bow-knot."

From a Weekly to a Monthly.—In the American Bee Journal for June 27, we published the following:

An Important Announcement.

To the subscribers of the American Bee Journal:—

Believing that the old American Bee Journal should occupy a wider field, and thus be a help to a larger number of readers, we have decided to issue it *monthly*, beginning with July (next month), instead of weekly, and at 25 cents a year. This very low price will permit every bee-keeper everywhere to subscribe for it, even if he or she has only one colony of bees. Yes, and any one who is at all interested in bees as a Nature study will, no doubt, be glad to read it regularly.

For 26½ years the American Bee Journal has been issued every week, but it has been found that there are only about so many bee-keepers who are sufficiently interested in bees to think that they need a *weekly* bee-paper. What we want is a larger constituency, hence we believe that by publishing the American Bee Journal once a month, and making the subscription price 25 cents a year, we will be able to reach the goal of our ambition sooner, and at the same time do a better service to all. The yearly price to Canada will be 35 cents; to England and other foerign countries in the Postal Union, 50 cents a year.)

We believe that after a few months at least 99 percent of our present list of readers will see that we have done wisely in making the change mentioned.

We are not quite ready to announce more of our plans just now, but will do so in the July number and in those immediately following it. We trust we may have the continued coöperation of all our old friends, and, of course, we expect very soon to enlist that of many thousands of new ones all over the world.

We may say that the monthly American Bee Journal will contain at least 32 pages each issue. The weekly number was supposed to contain 16 pages, so that under the new plan there will be half the quantity of reading matter at only one-fourth the former cost.

The July number will be issued about the 15th of the month; then thereafter we expect to mail it on the 10th of each month. The advertising forms will close on the 5th.

Of course, all who have paid their subscriptions in advance at the regular $1.00 rate (or the extra foreign rate) will be credited just four times as far ahead as their present address-label indicates. Those who are in arrears will pay at the rate of $1.00 a year up to the end of this month.

In the next issue we will be able to make further announcement. In the meantime let us all hope that bee-keepers may harvest a good crop of honey, and that although the prospects may have been discouraging, the silver lining of the clouds may be revealed and all be prosperous and happy.

George W. York & Co.,
Chicago, Ill., 118 W. Jackson Blvd.

We wish to add a little to the foregoing. We should have said that all subscribers to the monthly American Bee Journal in Chicago will pay 50 cents a year, as the postoffice requires a 2-cent stamp on each copy of a monthly paper mailed in the city where published.

"Apicultural Investigations" is a division in the Bureau of Entomology, Department of Agriculture, Washington, D. C., entirely devoted to the interests of bee-culture. Just now there are 6 persons connected with the work, as follows:

E. F. Phillips, in charge.
G. F. White, Expert in Bacteriology.
J. M. Rankin, in charge of Apicultural Station, Chico, Calif.
B. N. Gates, Collaborator, Worcester, Mass.
Jessie E. Marks, Apicultural Clerk.

The National Membership was 2390 on July 1. So it lacks only 110 of being a round 2500. This number should easily be reached by the time of the Harrisburg meeting, exact date of which we hope to be able to announce next month.

We understand that New York State members are coming back into the National Association "in a body," even by county associations. This is a wise move. It not only saves 50 cents to each member thus coming, but helps to increase the total membership so much more rapidly. Let the good work go on.

Worcester Co., (Mass.) Field-Meeting.—A. H. Estabrook, Secretary of the Worcester Co., (Mass.) Bee-Keepers' Association sent us the following on July 2:

The Worcester Co. (Mass.) Bee-Keepers' Association held a field-meeting at the apiary of Mr. J. S. Whittemore, on Pleasant St., in Leicester, on Saturday, June 29, 1907. The resignation of Pres. Burton N. Gates, of Worcester, was read to the Association and accepted. Pres. Gates leaves the society to take a position as bee-expert in the Department of Agriculture at Washington. It was then voted to leave the matter of electing a new President until the annual meeting next January. It was voted to hold a Fair in September in Horticultural Hall, the same as last year. On September 24, 25, and 26, 1906, the Association held an exhibition of bees, hives, honey, and implements used in bee-keeping; and the Fair was a decided success, so much so that we have decided to hold another one the coming September.

The same plan of popular lectures will be carried on, and every effort will be made to secure the most prominent lecturers on bee-matters in the country. The exhibitions will be, as before, for the amateur as well as the dealer in supplies. Further notice of this Fair and exact date will be published as soon as possible. A. H. Estabrook, *Sec.*

Clark University, Worcester, Mass.

Missouri's State Inspector of Apiaries is Mr. M. E. Darby, of Springfield, Mo., as announced in the following from Mr. R. A. Holekamp, Secretary of the State Bee-Keepers' Association:

Editor York:—Our State Board of Agriculture met at Kansas City, Mo., on June 5, and appointed Mr. M. E. Darby, of 400 East Commercial Street, Springfield, Mo., as State Inspector of Apiaries.

Mr. Darby is the candidate supported by the Missouri State Bee-Keepers' Association, and by making this appointment the State Board of Agriculture showed the bee-keepers did right in giving the Board the appointive power when asking our Legislature to pass our Bill.

If the bee-keepers of our State will now give their inspector all the assistance they can, by reporting to him localities where foul brood exists, and following his instructions in curing diseased apiaries, we have good reason to hope that our State may become, to a certain extent, free from foul brood.

Mr. Darby is well fitted for the work, and will make a good inspector.

Robt. A. Holekamp,
Secretary Mo. State B.-K. Association.

Missouri, like Illinois, has now an appropriation of $1,000 a year to be used in the interest of bee-keeping. We are sure that Mr. Darby's appointment is a

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wise one. If the bee-keepers of Missouri will now give him their hearty co-operation, he will doubtless be able to rid the State of foul brood in due time.

We congratulate the bee-keepers of Missouri upon the success in securing their new law, and also upon the appointment of Mr. Darby as inspector.

Mr. Benton's Search for New Bee-Races.

The following letter has been received by the editor of Gleanings:

United States Department of Agriculture,
Bureau of Entomology.

Washington, D. C., May 29, 1907.

My Dear Sir:—I am in receipt of your letter of May 16th, asking for information concerning the results of the trip by Mr. Frank Benton, in search of new races of bees.

I regret that I am unable to give you a report of this trip, since the Bureau of Entomology has received no such report from Mr. Benton, and he is no longer connected with the Bureau of Entomology. The information which we have on the subject is a verbal statement from Mr. Benton to the effect that he found very few bees, and was unable to ship any of them to this country. The tone of his statement concerning them would indicate that they are not desirable. Respectfully yours.

G. L. Marlatt,
Acting Chief of Bureau.

The Address of A. J. King, formerly editor of the Bee-Keepers' Magazine, (long since extinct), is asked for by one of our readers. Who can tell us?

Inspectors of Apiaries' Report.—Under date of July 1, 1907, Dr. E. F. Phillips, who now has charge of the bee-keeping interests of our Government at Washington, D. C., wrote as follows:

Dear Mr. York:—Under separate cover, I am mailing you a copy of Bulletin No. 70, "Report of the Meeting of Inspectors of Apiaries, San Antonio, Tex., November 12, 1906." This bulletin is for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., for 15 cents. Stamps are not accepted in payment.

Yours very truly,

E. F. Phillips,
In Charge of Apiculture.

The Report referred to contains 80 pages and cover. It is a most interesting pamphlet, and should be in the hands of every bee-keeper who wishes to have the latest word concerning diseases of bees. Send a 15-cent money order or coins for a copy as directed by Dr. Phillips.

How Far Do Bees Go For Nectar?

BY C. P. DADANT.

I have noticed both Mr. Chambers' and Mr. Byer's articles on the above subject (pages 279 and 393) and I desire to add my experience. When any one of us thinks he knows, he should hesitate about telling others that they are wrong, for different conditions produce different results, and what proves correct in one spot is incorrect in another. Mr. Chambers himself, who says it is "all bosh" about bees going such short distances for honey, shows us that circumstances alter conditions, and that in some cases bees may not go much over a mile, for he says: "During all these years the closest watch has failed to show any great flight of bees towards the sumacs on the east, only a mile and over."

I believe the man who claims the longest distances of travel for his bees is Mr. Doolittle. If I am not mistaken, he says they will go as far as 8 miles. I do not feel like calling Mr. Doolittle's or Mr. Chambers' ideas "all bosh," for I believe that they speak the truth, but I think the distances traveled by bees depend entirely upon location. I know, as Mr. Chambers says, that bees will travel farther in one direction than in another. This is caused by several things, in my opinion: The direction of the wind, its velocity, the shape of the ground (whether plains or hills), the amount of obstacles, timber, streams, houses, etc.; and, lastly, the number of honey-plants along the way to the distant pasture.

Some 20 years ago, Mr. Root requested several bee-keepers who had for a long time kept out-apiaries, to write statements of their experiences with bees located at different spots under the same management. The replies of France, Manum and myself, with diagrams, were published in Gleanings at that time, and have been since partly reproduced in the "A B C of Bee-Culture." I am sending a new diagram which will show my reasons for believing that bees do not *usually travel* over 2 miles in search of honey.

Perhaps it is as well for me to say at once, that there is nothing in the statement that we must despise a race of bees that are not good for a crop of honey 3 miles or more from them. We have imported fully one-half of the Italian bees that have produced the present American stock. We have tried Carniolans, Cyprians, etc., and we have found no difference in their ability to travel. In fact, the ability to travel depends upon the wings, and the large leather-colored Italians that we prefer are as strong of wing as the best.

At the North of the map the reader will see an apiary marked "Champeau." We harvested our best crops at that place, owing to the moist lowlands east of it. The "Liegerot" apiary, a little over 2 miles west of it, and located on the shore of the river, never gave more than half as much honey, under a management in every way identical. The river cut half of its pasture away. We have no bees there at present.

The "Milliken" apiary is now our best apiary for yield, excepting the apiaries at the south end, which are on the edge of the low, swampy lands of the river. The reader will notice that our home apiary is just about 3½ miles west of it, and, although our bees fly mainly in that direction, they have never been able to harvest as good crops as at this apiary.

Notice a dot southwest from our home apiary. There was a small apiary there a few years ago, and when the Spanish-needles on the low islands below Hamilton were in bloom, the bees of that apiary invariably made progress on the Spanish-needle honey when our home bees did nothing. That honey was only a little over 2 miles away, but it was across hills and hollows, and timber-land, and the bees evidently did not go that far.

The "Byers" apiary is on high land, some distance from any damp waste lands, and has yielded nothing worth mentioning, except from the white clover pastures around it. It has been first-class for the white clover crop, for most of its surroundings are pastures.

The "Villemain" apiary is now in the hands of a man who formerly worked for us. It is adjacent to about 500 acres of islands, and gets quite a crop from that every year. But during one summer when those islands were pastured to excess after a heavy flood of the Mississippi, the bees in that apiary literally starved, while those of the "Lamet" apiary, and of the "Sack" apiary, which are next to the immense swamps of the river, were yielding abundantly. The "Villemain" apiary is only 4 miles from the nearest of those, and only 3½ from the edge of the swamps; but as Mr. Byer puts it, "it might as well have been 20 miles away, as far as practical results were concerned." But if instead of hills and hollows between the two there had been an uninterrupted valley, with fields of flowers attracting them, it is possible that the bees would have gone the 4 miles and into the swamp-land. I have no doubt that the bees at the "Lamet" apiary go 2 or 3 miles in a southwest direction for honey, since their pasturage is wedge-shaped.

Another apiary within a half mile gives about the same results. But the "sack" apiary, on the edge of the widest bottom-land, gives most positive results every season. In 30 odd years we have had but two failures of the fall crop there. At that place we get only about a half crop of clover honey, for their pasture is half bottom-land that grows no clover at all. Another apiary about a mile south yields similar returns.

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The reader will see by this how dissimilar the crops may be when the conditions of the country are as dissimilar as they are in our vicinity. I have no doubt, however, that in the large plains of Texas, or of Colorado, apiaries will show more uniform results; but no one should lay down a rule, thinking that it will apply to every field.

If we look at still more irregular spots, we will find still more irregular results. In Switzerland, where the country is cut up by steep hills and snow-capped mountains, there are localities where they find differences in results within a mile or two. They are so accustomed to these differences in small areas that they have come to the conclusion, in some parts of Switzerland, that they can isolate queens and drones, by placing the mating apiaries at a distance of only two kilometers (1¼ miles) from the other bees. This, to my mind, is a mistake, for the drones are the strongest, on the wing, of the race. Nature has provided this so that they may more readily find the young queens. I therefore believe that drones will go further even than the worker-bees.

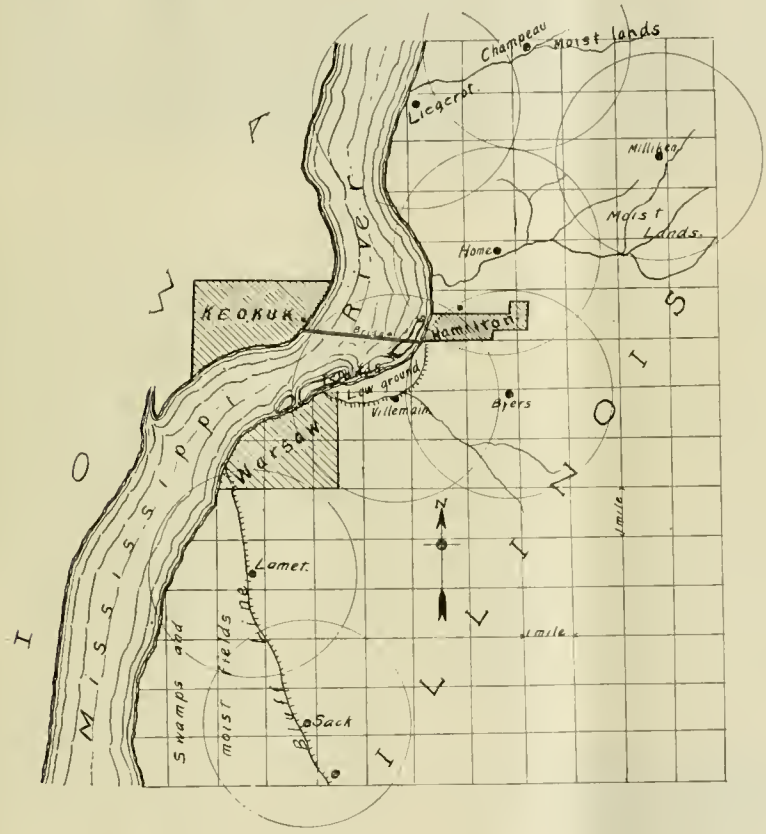
The Mississippi River has proven a barrier to our bees, and yet it is only a mile wide. We found but one exception to this rule. It was with a small apiary on the edge of the Keokuk bluff. The bees, penned in by the city, and finding no fall blossoms anywhere near there, cross the river every fall to harvest honey from the blossoms on the opposite bank—the islands shown in the accompanying diagram. The width of the river is about a mile, and ought not to be a complete hindrance. Hills and woods are probably as much a hindrance to the flight of bees as anything else.

If the pasturage is uniform all around an apiary, without any special attractions in one direction, I firmly believe that a circle with a diameter of 4 miles will about cover the pasturage used by the bees. This represents an area of over 7,000 acres, and if there is any honey at all in such an area the bees would be very foolish to go farther.

Perhaps some one will ask me: How do you know whether your bees go, or do not go, to such or such fields? By the results. This is certainly the best test. If apiaries 4 miles apart have crops differing entirely in quantity or quality, under the same management, with the same breed, and using the same kind of hives, there is nothing to make the difference in results but the difference in pastures. If the bees at the "Milliken" apiary harvest Spanish-needle honey in large quantities from a pasture just east of them, and those at the home apiary get honey of a different color, and less in quantity, we will surely conclude that they do not work in the same area, even though they all appear to go in the same direction. If an apiary near the swamps produces half as much clover honey as the home apiary, and twice as much fall honey, it is evident that that apiary is in a different field as to blossoms. If our bees went 6 miles readily, in any direction, they would have something like 100 square miles to harvest from, or over 60,000 acres. There would be no limit to the crop, no possibility of overstocking.

The experience I mention here dates back many years. Our out-apiary was established in 1872. In 1877 we had 6 apiaries, and have had from 4 to 6 ever since that time.

Hamilton, Ill.



Some Queen Questions Answered.

BY C. M. DOOLITTLE.

QUESTION.—A while ago I had a swarm issue which was hived in the usual way. After hiving the swarm I cut out all of the queen-cells from the parent colony but 3, and there were no more such cells started. About 15 days later another swarm issued from the parent hive. On examining the hive I found that the bees had actually kept 2 of the queens confined in their cells 6 or 7 days after they should have gnawed out. One queen had been allowed to emerge from one of the 3 cells, she leading out the second swarm, while the other 2 queens were in the cells. I cut open the cells, and, when liberated, strange to say, these 2 queens could fly as well as queens which have been out of their cells several days. How would you account for this? And what kept these queens from starving?

ANS.—Bees do what seem to the novice as very strange things quite often, and even the veteran is sometimes puzzled over some of the things they do. The 2 queens which our questioner found in their cells were kept there by the bees so that they might have the material to preserve the existence of the colony after a second swarm had issued. In fact, it is a very rare thing for an after-swarm to issue unless one or more virgin queens are held in their cells in just this way. Had those two queens been allowed to emerge from their cells, a fight would have ensued till all but one queen would have been killed, and the killing of all but one of the queens would have prevented all after-swarming, and such preventing was just why the bees kept the 2 queens in their cells so as to preserve them till after the queen which the bees allowed to emerge from her cell first had left with the afterswarm, after which it was safe for another of the 2 queens to leave her cell, as only one queen is allowed to roam the hive at one time, for any length of time, except in case of supersedure of queens, when, in exceptional cases, the mother and daughter will dwell together for days, weeks, and sometimes months, until the old queen dies of her infirmities.

Had the questioner waited an hour or so after the second swarm issued before he had opened the hive he would have found one of the 2 queens at liberty, and the other kept in her cell by a knot of bees clustering over it, or both out and one of them killed, just according to whether the colony intended to send out the third swarm or not.

When all idea of swarming is given up then all queens old enough to do so are allowed to leave their cells, a fight ensuing, till all but one are killed, when the bees and queen turn in and gnaw into all the remaining queen-cells, when

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the victorious young queen stings all of her embryo rivals through the holes made in the sides of the cells. But until the idea of swarming is given up, all occupied queen-cells are protected from the queen having her liberty by little knots of bees clustering about them.

And in the above we have the accounting for what our questioner thought a strange proceeding. But before leaving this part of the matter I wish to say that a circumstance similar to the one given by the questioner is somewhat rare, in that the queens were kept so long in their cells. This can be accounted for by believing that bad weather for swarming occurred at about the time the first queen emerged from her cell, and continued for a week or so, or during the time the bees held these queens in their cells. Otherwise, as is usually the case, this second swarming would have occurred in two or three days after the emerging of the first young queen from her cell.

And now as to the matter of what kept the two queens from starving The bees fed them, of course; and had our questioner looked closely he would have found a little hole near the end of the cell through which the queen put out her tongue to be fed, as I have seen them do scores and hundreds of times.

Some seem to think that bees never feed a queen or another bee unless they are in a measure forced to do so; but this is a mistake. I have seen bees feeding these inmates of queen-cells at many times during the past 35 years. I first saw it being done in 1871, and saw the same thing during the summer of 1906, and during many of the summers intervening.

In 1871 I was immensely interested, as this was my first experience, in the matter. In 1906, I observed more closely than ever before, for the reason that a prominent bee-keeper said that the queen almost laid hold of a worker-bee in order that she might be fed, and that all of the present notions regarding the bees feeding one another, and especially the queen, were only fossil ideas drifting down through the centuries. I found, as my memory served me of other observations, that all the queen had to do while in her cell was just to push out her tongue through this slit or hole in the same, when there were bees ready to feed her. Yea, they seemed anxious to do this, for no sooner would the tongue protrude than one, 2, and often 3 bees would be there to caress it and offer food. And these young queens when thus cared for, are growing strong almost, if not quite, as rapidly as is the one having her liberty, so that it is nothing strange that our questioner's queens which were kept in their cells 5 or 6 days after they should have emerged, were so they could fly as soon as he cut the cells open.

Some years ago, I had a queen laying in 3 days from the time she emerged from her cell. It happened in this way: A colony lost its queen, casting a swarm with a virgin queen, and while they were hanging on the limb I opened the hive to cut the queen-cells preparatory to returning them. Upon looking the hive over I found only one cell besides the one the queen emerged from, and as I had the frame having it on in my hands, a beautiful young queen came forth from this cell. I at once took the frame, bees and all, together with 2 more, and formed a nucleus with them, and in just 3 days I found the queen laying. At that time I thought I had found something extra along the line of smart queens, but a few years afterward I had nearly the same thing again with a queen which I knew had been held in the cell for at least 5 days. A queen that is thus held in her cell grows old as fast as do those which queen-breeders keep in nursery cages, and it is nothing worthy of comment for introduced nursery-caged queens 5 or 6 days old to be laying 3 or 4 days later. A queen emerging from her cell at maturity is a weak, white, downy thing, very much different from the strong, ready-to-fly queens we always have with queens held in their cells till they have been quahking for 2 or 3 days.

Borodino, N. Y.

Rearing Pure Queens---Hive-Bottoms.

BY DR. G. BOHRER.

Please permit me, Mr. Editor, to endorse what is said on page 481, and also much that is quoted from others concerning the matter of improving bees. I find no improvement in the Italian bee, except it be the goldens where not crossed with Cyprians, which may prove to be something of an improvement upon the 3-banded bees of 40 years ago, in beauty at least. I have one of these queens whose worker progeny is as large as any I ever saw. And her queen offspring, so far, are fine in color, of good size, and quite prolific. But their workers in turn show the 4th, and some of them the 5th, yellow or golden band. This has led me to conclude that this queen has been fertilized by a drone from 3-banded Italian stock, and that her queen offspring has been mated to golden drones, as the number of yellow bands points in that direction. But while the mother-queen in question is very prolific, her workers are good-dispositioned, and as great honey-gatherers as I have ever had any experience with.

The question comes up as to what a golden Italian bee is, anyway. Is it an original and distinct race, or is it the result of selecting the brightest colored queens and drones to breed from through several successive generations? If so, then we are surely getting back towards what an original and distinct race of bees was. For it seems to be absolutely certain that if we use the darkest colored queens and drones to breed from they run back rapidly to the black races of bees. I have found it no small task to keep the 3-banded Italians up to the well-marked 3-banded standard. The tendency is to show a yellow waist and one distinct yellow band, with a very indistinct third yellow band. And to breed queens from a mother whose workers are thus marked is certain to show still more prominently black blood.

With the facts before us, of careful selections resulting in brighter yellow bees, and indifference as to selection in breeding resulting in darker and widely different colored bees, the question again comes up as to "where we are at." One will reply that we are surrounded by black and mongrel bees, and that the disappearance of the yellow bands is due to this fact only. That such a state of affairs will keep up amalgamation and retard improvement in any desirable direction, is without doubt true; but if a 3-banded queen-breeding apiary be located 10 to 15 miles from all other races of bees, is this strain of bees ever found to be distinct, that none but 3-banded bees will be produced? If so, and these bees are, as some claim, larger and hardier than the goldens, and better honey-gatherers, then it is the duty of all bee-keepers to join in securing such legislative enactment as will secure protection by isolation from all other races of bees. Ten to 15 miles it would seem would be ample distance. Some think a much shorter distance would answer, but as it is known that queens are often out of the hive more than 30 minutes when on their bridal trip, no one seems able to state definitely the distance they go from the hive when out so long. But it being highly probable that in level or undulating regions they go several miles from the hive, and it being also quitely likely that drones likewise go a long distance from the apiary in which they are reared, any person who breeds queens for the market should be required to get control of all the bees within a radius of 15 to 20 miles, and take out a license to breed queens near the center of his territory And the law should prohibit any one else from keeping bees within his territory. This rule should apply to any one who breeds any other strain of bees, whether goldens, 3-banded, Carniolan, Cyprian, or any other race of honey-bees.

Any one who can answer the questions as to whether the goldens are a distinct race of bees, and whether the 3-banded bees are a distinct race, and what isolation and careful selection of breeding stock has done in producing and maintaining either or both intact, will, no doubt, confer a favor upon many bee-keepers.

Hive Bottom-Boards.

But permit me to join Mr. Scholl, on page 692 of Gleanings, in what he says concerning the flimsy and worthless bottom-boards that many factories are sending all over the country. Some of them say that they do not recommend them, but supply them when ordered. I never knew any one to order hives with these trashy bottom-boards. But they get them just the same. I will say that if it is really a fact that supply-factories do not recommend these traps, they most certainly do know that they are a pest, and not what the practical bee-keepers want, and they should so inform their patrons, if they really wish them to have actual value for their money. These traps cost quite as much as 7/8-inch boards. The latter will last many years with proper care, while the

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thin bottoms go to pieces in a short time. Worst of all, the joints in them shrink here in Central Kansas until robber-bees find it an easy task to enter them and destroy a good colony in a short time. I have, after 3 years' use, thrown them away.

Please, gentlemen, let us have no more 5-16 bottom-boards. Many beginners have been cheated by having these trashy bottoms put off on them, not knowing how little they are worth. And some experienced bee-keepers ordered hives with 7/8 bottom-boards and had the thin bottoms sent them. I was caught in just this trap once, and was "up against" the proposotion of accepting them or doing without hives, as it was too late to get others, the swarming season being upon me.

Such bad supplies with advancing, increasing prices, are causing many persons to try to make their hives themselves, which, as a rule, does not secure a hive made of good material, properly cut and put together. Let us have hives made of good material.

Lyons, Kans. (Continued on p. 601.)

Conducted by EMMA M. WILSON, Marengo, Ill.

"Emma" Means "Honey-Bees"

In olden times any change in the family, as the death of their keeper, was told to the bees, says Praktischer Wegweiser, and when a man entered matrimony he must introduce his young wife to the bees, and hence probably arose the maiden name "Emma," for the old German name Emma is the high German of "Imme," as the bees were called at that time. Many girls of the present time named Emma may not know they actually bear the name of our busy little honey-gatherers.

Retarding Swarming—Bee-Sting Cure

This promises to be a good year with me. The bees are not swarming so much as at other times, yet they are storing honey in better quantities than usual. So I had made up my mind that anxiety to swarm is not an indication that they are short of room. It is with bees as with people, I guess. They must do something, and if there is nothing to gather for honey, they swarm. I have been wondering if feeding the bees during short honey-flow would retard swarming.

I wish I had a sure and prompt cure for stings. I do not get stung often, but especially if stung on the face or neck, I am badly poisoned thereby, and am sick for days. All the books, etc., I have read on the subject say to handle the bees during the middle of the day when they are flying freely, yet that is the time of all others that I avoid them, as then they are decidedly warlike with *me*. Early in the morning, while it is yet cool, is the time I work with them, and often I take off a super or put one on, and not a bee comes out of the hive. Often, too, a swarm that issues in the heat of the day will not enter a hive, yet will do so late in the evening, and sometimes in the morning.

If a virgin queen is clipped, how will she mate, as that takes place during flight? MRS. GERTRUDE L. GOODWIN.

Roy, Wash., June 6.

It is hard to understand very much about what favors or retards swarming. It is not likely that you could retard swarming by feeding, yet bees are more likely to swarm with a very moderate yield than with nectar coming in a flood.

A thousand and one cures for stings have been given, yet it is not certain that one of them can be depended upon when it comes to the pinch. Perhaps mud is as good as anything else. Your course probably is to do one of two things. You may try the plan of taking the stings until you become immune. In your case it is just possible that it would take so long and entail so much suffering that it would not be worth while. The other course is to wear gloves, and dress so as to be proof against stings.

Your feeling about the time of day has been the same with others, but in time they came to prefer the middle of the day. It is not so much the middle of the day, either. Sometimes bees will be good natured in the forenoon and cross at noon. Sometimes good natured in the afternoon. It depends upon the pasturage. That's good sometimes in one part of the day, sometimes another; and when bees are busy gathering they are on their best behavior. So long, however, as your bees sting less in the morning, there is no reason why you should not take that time of day to handle them. When you have bees enough you have to work at all times of day.

Bees are not to be blamed if they don't want to go into a hot hive in the middle of the day. You wouldn't, either. You may find that it will make a great difference if you have the hive shaded, or sprinkled with water, and especially if you have the cover partly off so that the bees find it cooler in the hive than out.

If a virgin is clipped she will not mate. If you have clipped a virgin, the best thing is to clip off her head, also.

T-Super Dimensions, Springs, Etc.

DEAR MISS WILSON:—Please give the *inside* length of Dr. Miller's T-super, that he uses on the 8-frame Langstroth hive. Also the thickness of the "follower" that he uses. (I suppose the supers are 12⅛ inches wide.)

Can the springs that he says are better than wedges be bought of dealers? Are they to be used *loose*, or are they to be attached to the super?

As I am going to make a few of those supers, I desire to have them made right. I take it for granted that the length of the T-tins are 12 inches.

I would very much like to see a description of his "super-filler." I believe he has promised to describe it some time. MARY M. SMITH.

Caldwell, Ida., May 27.

A T-super measures, inside, when first made, 17⅜x12⅛x4⅝ inches. Ours have been in use for years, and now measure 4½ in depth, which is a better depth. But even well-seasoned lumber seems to shrink with age, so it is better to make them 4⅝. If they were made 4½ at

FIG. 1.—SUPER-FILLER.

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first, and then should shrink to 4⅜, there would be trouble.

The follower is 17¼x4¼x5-16, of course with places cut for the T-tins.

The super springs can be bought of any dealer in bee-supplies, costing a cent apiece, or about 75 cents a hundred. At first we used 2 to each super; but now use only one, and it works all right. The spring is used loose, thrust down somewhat diagonally, between the side of the super and the follower, at the middle.

Yes, the T-tins are 12 inches long.

The following description of the super-filler is taken from Dr. Miller's "Forty Years among the Bees," page 148:

SUPER-FILLER.

I'll tell you how to make a super-filler. Take a board as large as the outside dimensions of your super or larger. (The one in Fig. 1 is a board hive-cover.) Nail a cleat on one end of the board, and another cleat on one side, as in the picture. These cleats may be ½ by ¼ inch, but the dimensions are not important. Now put a super on the board, shoving one corner snug up in the corner made by the cleats. With a lead-pencil, mark on the board, on the inside of the super, where the sides of the super come. Put eight sections in the super, four on each side, with the three T-tins in their proper places. With a pencil rule across the board each side of each T-tin, so as to show where the T-tins come. Now take off the super and its contents, and get six strips, each 11½ inches long and ¼ inch square. Nail these on as shown in the picture, so as to keep at equal distances from the pencil-mark of the super at each side, and about a fourth of an inch

FIG. 2.—PUTTING FOUNDATION IN SECTIONS.

distant from the marks made for the T-tins. The super-filler is now complete.

It stands at a convenient height at the right-hand side of the one who operates the Daisy fastener, with the side-cleat at the farther side (See Fig. 2). A super is placed on it with one corner of the super tight against the angle made by the cleats; but no T-tin is yet put in the super. As the sections come from the fastener they are placed in the super at the end toward the back of the operator. When the first row of six is completed, the T-tin is slipped under these sections into its proper place. In like manner a second row of sections and a T-tin; then a third row and a T-tin, and lastly the fourth row. Then without rising, the operator lifts this filled super to one side and gets an emtpy one.

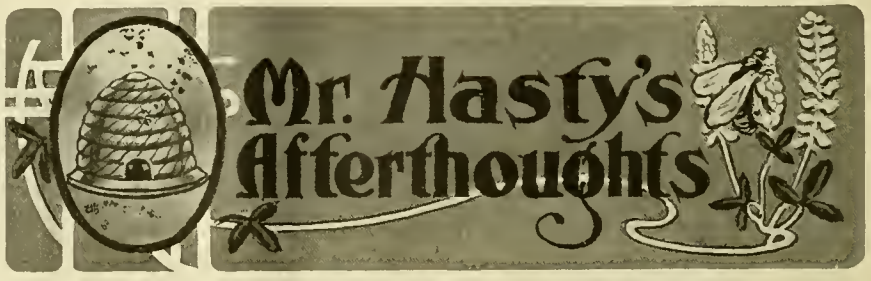
Bees Capture a New Home

"LONG BEACH, CALIF., April 25.—Several weeks ago Mr. and Mrs. Clarence Carney furnished a new home they had built in Belmont Heights, but, having paid the rent on another house, remained in the latter until today, when they delivered up the keys and started off with visions of a happy time in their own home.

"When they unlocked the front door they were startled by thousands of busy honey-bees, swarming in every nook and corner of the house, which were so angry at the intrusion that they literally drove Mr. and Mrs. Carney from the house by a combined assault.

"Mrs. Carney sat on the doorstep and laughed, while her husband made a trip to town for brimstone, which he threw, burning, into the house, but with little effect, and Mr. and Mrs. Carney will sleep downtown tonight and seek to allay numerous severe stings received in the day's encounter."

Isn't it a pity that all reporters are not obliged to take a preparatory course in bee-keeping to fit them to give correct reports in regard to bee-items? The above item may have occurred exactly as reported, and it may not. In any case, it shows the superiority of the feminine mind, as Mrs. Carney was able to sit on the step and laugh, while her liege lord threw burning brimstone into the house. We are not told how long it took the house to burn down, nor the amount of insurance.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

LYMAN METHOD OF SWARM CONTROL.

We should await with interest the reports on the Lyman method of swarm control. It may be characterized as a self-acting artificial swarmer which operates gradually instead of suddenly. My impression is that the out-and-out shaken swarm (in some of its forms) will eventually give more general satisfaction. Placing a great lot of young brood where many bees go out and few or none come in doesn't look to be the proper thing. The method evidently has this in its favor, however, that it obviates the desertions which some "shook" swarmers have run against so badly. If we try to save time to the utmost, and judge from outside appearances, we may shake a swarm which had no intention of swarming at all—and so do lots of needless mischief. Same of the Lyman method. In both there would be a queen to be reared from the start under improper and bad conditions. Which would be the worse I hardly know. On the whole, I think I'd sooner trust the queen from a hive with a natural entrance, even if the bees were too few and nearly all young. Page 411.

DETECTING A HONEY-FLOW—PUTTING ON EXTRA SUPERS.

Doolittle's way of seeing if a honey-flow is on is fresh enough to speak about. With the sun low, as it is at 4 o'clock, get your head near the ground and protected from direct rays, view the incoming bees thus, looking nearly toward the sun, but not quite, and those carrying loads of honey will have a translucent look, while the others look opaque. I'll own up that I never tried this, but I have no doubt that it would work. Very skittish new beginners might dislike to expose unprotected heads so near to a stream of bees.

That's an honest confession Mr. D. makes also. While he practiced the orthodox way of lifting a super to put an empty super under he regularly had from one-third to one-half of his sections unfinished. The unfinished ones are from 4 to 8 out of 100 now that he always puts the empty super above. This list is not far from my own results, using the double-deck wide-frame and no tiering up at all. Page 431.

"WHEELBARROWING" COLONIES

Nothing succeeds like success. F. L. Day succeeds at trotting his hives 25 rods on a common wheelbarrow, and gets them on the summer stands all right, and before they wake up. 'Spects if they were roaring and already waked up, and more than waked up, when he started with them the outcome might be different. Page 432.

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THREE YELLOW SWEET CLOVERS.

So the annual Melilotus of Texas is yellow. I think the one I read of years ago was blue. Doubtless this yellow annual is responsible for some of the mix-up that prevails in the minds of the brethren about yellow Melilotus. If I'm right we have at least 3 yellows. One is purely and simply a yellow variation of the white, nearly identical otherwise, and therefore of no use to us except as a curiosity. One is a smaller and earlier biennial with many points of difference, among them a liking for wet ground, and different species botanically. Third comes this yellow annual which is still more a thing in itself. Page 433.

VARIOUS KINDS OF FOOL SWARMS.

We are liable any day to have some one deny that there is such a thing as the "fool swarm;" and therefore let us fool with it a little. The fool swarm is one of the subdivisions of one of the divisions. Primes, afterswarms and deserters constitute the first divide. Proceeding to subdivide the deserters we have about 4 kinds. The first, and by far the most common kind, occur in regular swarming time, and among recently-hived swarms. They think they can do better, else haven't had frolic enough, and out they come. Some years seem to be more promotive of this contrariness than others. Next we have a miscellaneous lot of untimely swarms that consider themselves driven out by unendurable conditions — unendurable heat, unendurable cold, draughtiness, leakage of water, inroads of insects, etc. Third comes the "hunger swarm," pure and simple. We can certainly respect their disposition not to "die and make no sign" when starving. As a last resort they start out and try to better their condition. Naturally hunger swarms are mostly in the early spring, but not all then, I believe. Fourth and last is the fool swarm. Comfortable and sweet-smelling hive, fair supply of both honey and pollen, absolutely nothing to cause them to go *except the discontent and weariness which has grown up in their minds.* We can hardly admire their wisdom, but we can admire the high-strung mental character, without which such a result would never come about. Not very different from the case of the well-situated family that migrates to a life of struggle and suffering in a new country. "Our graves were out here, and we had to come to 'em," said a lady of such a family, 20 miles from where I write, in the Black Swamp of Wood County. Human fool swarm much more common than the fool swarm of bees. Well, the case which Mr. Byer gives on page 434 is excellent to mark, and keep in reserve, in case some "Thomas" should get up and deny the whole thing.

Conducted by J. L. BYER, Mount Joy, Ont.

Busy With the Bees

I am very busy (June 15). Colonies got ahead of me, owing to bad weather, and it was quite a job to break up swarming after the fever was contracted. I will have quite a blank during fruit-bloom and clover, and it will pay to feed, as I will have to be away for about 2 weeks steady, so the best I can do is to leave the colonies heavy with honey and let them take chances. As the majority of them have lots of unsealed honey from fruit, in the supers, they will not suffer for a week or two.

J. L. BYER.

Bees Starved in the Cellar

Editor Hutchinson tells, in the Review, of losing a large number of colonies in the cellar through starvation. The cold weather prevented taking the bees from the cellar until nearly the first of May, and, as a result, as has been mentioned, a lot of them starved.

While in all my bee-keeping experience I have not lost a dozen colonies by starvation, yet I am still learning the necessity of abundance of good stores in the fall.

Mr. Storer, of Lindsay, winters his bees in a perfect cellar, and yet every colony *must* have 40 pounds of stores. I am thoroughly convinced that he is on the safe side, and if necessary some years, it is no great trouble to relieve the brood-nest. This year our large, heavy brood-nests needed no *relief*.

Alexander Plan of Building Up Weak Colonies

While the Alexander plan for building up weak colonies is good when single-walled hives are used, yet it is almost of no value to those bee-keepers who winter their bees on the summer-stands, as such hives can not be tiered up. This spring I blundered on to a plan that is simply "immense" when you want to have a good queen that has only a few bees with her.

When clipping at one yard 2 weeks ago, I found 2 young Italian queens that I bought last fall, with only about a handful of bees with each. Having found the queens in 2 extra-strong colonies, the combs they were on were set aside and then the bees of a couple of combs were shaken in front of these very weak colonies. The old bees return to their old location, and the young bees crawl up into the hives they are in front of. These *young bees* are indeed "friends in need," and just the right kind of strength required. Instead of having brood to get chilled, the colony has more bees to care for and rear brood, and on examining those 2 colonies to-day, after 2 weeks' time, I could hardly think it possible that so much change could have taken place in so short a time.

Dark Bees the Hardiest

Just lately I was speaking with a bee-keeper who has been in a large number of apiaries in Ontario, during the past 2 months, and he remarked that in every case the dark bees—Carniolans and natives—had stood the adverse conditions much better than the Italians. My own personal experience is exactly in accord with this view, and the very few weak colonies I have are nearly all headed by Italian queens. The very yellow, or 5-banders, have suffered the worst; in fact, through these parts they have been cleaned out entirely. It seems to be quite the general opinion that these very yellow bees are not so hardy as the leather-colored Italians, yet I have never seen a good explanation as to *why* this is the case.

"A Cold and Backward Season"

The above phrase has become a by-word during the year of 1907, so far. However, since June 16, in our locality at least, the first-named qualifying adjective can be eliminated when speaking of weather condition. On that date a warm wave accompanied by nice showers came in, and the growth in vegetation has been phenomenal. It seems as if Nature were putting forth every effort to make up for lost time, and instead of looking forward to crop failure, the farmers are now confident of at least an average harvest. Prospects for the bee-keeper are also much brighter, and although the clover is about 2 weeks later than usual, yet it is now looking good, and with favorable weather there is no reason why a crop of honey should not be secured. Basswoods are very full of buds, and while this source of nectar is always very uncertain, yet we *never* get basswood honey when we have no basswood bloom. The acreage of buckwheat will be larger than usual, so from one source or another the bee-keeper should be able to get some honey. Clover started to yield yesterday (June 24), and now we have just had a soaking rain which should put it in good condition for yielding nectar when the weather clears again.

Speaking of bee-forage, I often won-

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der if the bee-keepers of the northern part of the continent fully appreciate the value of alsike clover. In a recent issue of Gleanings, Editor Root says that those bee-keepers will be fortunate who have had lots of alsike clover scattered around their apiaries. He advises bee-keepers to buy the seed for the farmers *free*, believing that in the end the investment would be a paying one. Be that as it may, I am thankful that we live in a locality where alsike is grown for seed, as I know if it were not for alsike we might as well pull up stakes at once.

As to white clover, we have a little in old pasture-fields and on the roadsides, but in dry seasons it is cropped so closely by sheep that it hardly gets a chance to bloom. Occasionally a field is grown for seed, and from observation I am quite sure that it is not at all equal to alsike as a honey-yielder. I wonder if about ¾ of the *white clover* honey produced throughout the country is not gathered from the alsike!

A Swarming Surprise

Bee-keepers in this locality were caught napping this spring. With steady cold weather prevailing right through April, May, and the first week of June, with scarcely a day fit to open hives, swarming was hardly thought of. Imagine our surprise when on starting queen-clipping during the early part of fruit-bloom, we found about 1-3 of the colonies starting queen-cells. One colony had swarmed about the middle of May when pussy-willows were yet in bloom. The queen being clipped, the bees returned, and when the young queens emerged, away went the whole force of bees. This happened at an out-yard, and the loss was not discovered until a couple of days after the bees had left. This is the first time I have ever lost a swarm in the spring, and what makes the matter particularly aggravating is the fact that the queen was an extra-good one, and I was contemplating rearing a number of young queens from her.

Having said so much, I may as well tell the whole joke. The day I discovered the loss I had made a trip to the out-apiary for the express purpose of bringing that colony to the home-yard so as to give it closer attention when *rearing those young queens.* It has been rather a boast of mine that I have not in 5 years allowed a colony to swarm in fruit-bloom, but after this spring, I guess I would better keep "mum" when the subject is mentioned. All colonies found with queen-cells were treated to a thorough over-hauling, cells cut out, supers put on, and although the weather was cool, brood was put in the supers over the strongest colonies. Returning 10 days later 6 colonies were found to have swarmed, and 3 more were again starting cells. As fruit-bloom was just over, after cutting out cells again the 3 were considered safe, but with those that had swarmed and lost the old queens, nothing short of breaking up the colonies into strong nuclei would answer the purpose—queen-cells nearly all sealed, and also most of the brood; and the bees in that noticeable *broody* condition. If thought advisable later on, these nuclei can be united and good results obtained during the flow, or, as I contemplate doing, the nuclei can be made strong in double-quick time by the giving of brood from extra-strong colonies. Colonies made up like this, headed by a young queen, are in an ideal condition to take advantage of any flow that may happen to come.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

"Snowy White" Drones

Some 5 or 6 years ago I had a large, prolific queen that would produce a drone every now and then almost pure white. These were not the so-called "Albino" strain, but were dark hybrids, and these sports were not of the white, ashy color usually found in the so-called "Albinos," but were almost of a "snowy" whiteness; even their wings having a milky cast. The few that I saw of these strange freaks of nature were never able to fly, and were soon dragged or driven from the hives by the bees.

Distance Bees Forage Profitably

How far will bees fly for honey? This is a question often asked, and, strangely enough, you will hardly find two apiarists who will give the same answer. I think it should not be so much a question of how far bees will fly for honey, but rather a question as to how far will bees fly and gather honey at a profit.

I know that bees will fly from 5 to 7 miles for honey, and G. M. Doolittle once said they would fly from 3 to 5 miles from choice, when plenty of bloom was to be found near by. Let that be as it may, I will tell how I know they fly from 5 to 7 miles for honey.

Away back in the '80's I lived in Johnson Co., Texas, and was the first one to get the yellow-banded bees in that locality. The following spring a neighbor that lived at least 5 miles distant from my apiary told me those yellow bees worked freely on the fruit-bloom on his place, and that he lined them within less than 2 miles of my apiary with the hope of finding some of the improved bees wild in the woods.

The same year I was six or seven miles from my apiary and saw those same yellow-banded Cyprians at work on horsemint. This was on the high prairie, and only a skirt of timber between those bees at work on the mint and my apiary. They would rise high in the air and make a direct line for my apiary. I searched the woods thoroughly with the hope of finding wild bees of the improved kind, but became fully convinced that they were bees from my own apiary. I do not mean to say that bees will always fly that distance. I am sure that the locality and season have much to do with it, and, I might add, the "lay" of the country also.

At another time (and a very dry year—the rain that we did have was just local showers), I had my colonies gather about 30 lbs. of comb hony each from wild marigold, 3½ to 4 miles away. How do I know this? I'll tell you. As stated, it was a dry year, and everything was dry and parched in my locality. But 4 or 5 miles away there had been plenty of showers to make the wild marigold do its best, and there was nothing for bees to work on in my locality at the time. Besides, it is easy to tell when bees are at work on the marigold, by their bodies becoming dusted over with a deep yellow pollen.

Rescue, Tex. L. B. Smith.

Yes, it is easy to tell when bees are at work on the flowers of what is commonly called "wild marigold"—*Gaillardia pulchella Fong.* Besides the golden-yellow pollen-dust on the bees, the honey has a characteristic flavor, very sweet, and of a heavy body, dark amber or golden in color. These plants extending from the plains of Arkansas and Louisiana through Texas and to Arizona and Mexico, are often much influenced by local rains; that is, where rains do not come at the right time there will be no "marigold," while several miles away a fine crop of bloom may be open where rains prevailed. In such instances it is well that our bees should go several miles from home. But will they always do so? I remember an intance where 2 apiaries were located only 1½ miles apart. Near one of them located on low land, a compositæ came into bloom in abundance during July when there was no other bloom anywhere. The bees of this yard stored the combs heavily with honey, there being the roar of a big honey-flow on in the apiary during the time of the yield. The bees at the other yard did nothing all the summer; they knew absolutely nothing of "the good time their neighbors were having," and that only 1½ miles away. Now why didn't they find those flowers? There was a "whole valley full of them."

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Pure Food Laws

Texas is not far behind on having a pure food law conforming with the National law. From a list of abstracts of the provision of acts of the Thirtieth Legislature of this State, which met recently, is taken the following:

"PURE FOOD LAW.—House Bill 5, is the pure food bill creating a Pure Food Commission with an appropriation of $5,000 a year, the Commission to be located at the College of Industrial Arts at Denton, (Texas). The Commission is to be appointed by the Govenor. The Bill provides for the appointment of a Pure Food Commissioner, to receive a salary of $2000 a year, and a Deputy Commissioner, at $1200 a year. The office is to have a stenographer at $600 a year. The Act is to prevent adulteration, fraud, and deception in the manufacture and sale of articles of food, drink, paints, and drugs. The standard set for purity in drugs is the test laid down in the United States Pharmacopœa. By adulteration is defined the mixing with any substance anything which depreciates its strength and purity; the addition of a cheaper substance; the abstraction of a constituent or ingredient; selling an imitation for another article; if any is diseased, decomposed, putrid, infected, tainted, or rotten. This applies to milk or animal or vegetable substances."

The bee-keepers of Texas have long wished for a law of this kind, and it will help the bee-keeping industry much toward helping to maintain better prices for honey; especially for honey of good quality.

There are, however, many persons who can not see the good that the pure food law will do for them. This was a surprise to me. They complain that "it will cause all products to go up in price to such an extent that it will be impossible to buy them." But we should consider that we are getting better pay for what we sell, and that we get better food-stuff for what we buy. Yes, it is a just measure all around, and for all of us, although the adulterators may not think so.

Organized Effort Among Bee-Keepers

In unity there is strength! This holds with bee-keepers as well as with any other class of people. The only trouble has been that their efforts to organize themselves—to get together and strive together—have been entirely too much neglected. Too little attention has been paid to this matter, although much progress was made along other lines of work. This subject was one under discussion at the last year's meeting of the Texas Bee-Keepers' Association, at College Station, and an effort will be made to make this year's convention a better one, also increasing the interest among bee-keepers and increasing the membership of the Association.

As one means of creating an interest, not only among bee-keepers but among visitors attending the conventions during the meeting of the Texas Farmers' Congress, it was decided to have an exhibit of bee-keepers' products and supplies in connection with the convention. A premium list was provided for which is given in this department. The premiums are well worth trying for. It should also be borne in mind that these premiums, besides the blue and red ribbons that will be awarded for first and second premiums, should not be the only consideration. It will be a great advertisement for the goods of the exhibitor as well. Hence we are desirous of having as many exhibit as possible.

The visitors to the Farmers' Congress, comprising 16 State associations, besides other smaller societies, number several thousand. Therefore, a bee-keepers' exhibit would be a good advertisement.

The Committee on Exhibits would be glad to hear from any intending exhibitor at an early date, so that arrangements can be made in due time. The meeting takes place July 23, 24, and 25. During the convention there will be an interesting program of subjects this year, and a good attendance is hoped for.

In most sections of the State the honey season so far has been a favorable one, and bee-keepers are rejoicing more than they have for several years. If you have not already made up your mind to come to the meeting, and you can, do so now.

Program of the Eighth Annual Meeting of the Texas Bee-Keepers' Association, to Be Held at College Station, Tex., July 23, 24 and 25, 1907.

The Annual Address by the President.
Reading of the Minutes of the last Meeting.
Report of Secretary-Treasurer.
Business of the Association.
Discussions:

1. "Making hives at home; some facts and figures," by O. P. Hyde, of Floresville.
2. "Why *I* prefer the shallow divisible hives and supers throughout over deeper ones," by Louis H. Scholl, of New Braunfels.
3. "Some short cuts in running a large number of out bee-yards," by W. O. Victor, of Hondo.
4. Are the Holyland and Cyprian bees an all-purpose bee for the average bee-keeper?" by W. H. Laws, of Beeville.
5. "Baby or larger nuclei—which are in most extensive use, and why?" by Willie Atchley, of Beeville.
6. "Bee-keepers' exhibits at fairs; and as an advertising medium," by C. S. Phillips, of Waco.
7. "The pure food laws and honey-prices for Texas Bee-keepers," by Udo Toepperwein, of San Antonio.
8. "How are the funds appropriated for foul brood inspection used?" by A. F. Conradi, of College Station.

The Question-Box is again to be one of the main features of the program, in which all bee-keepers present may take part, and ask such questions as are of interest to them.

LOUIS H. SCHOLL, *Secretary-Treasurer.* W. O. VICTOR, *Committee on Program.*

LIST OF PREMIUMS DONATED FOR THE BEE-KEEPERS' EXHIBIT AT COLLEGE STATION, AT THE JULY MEETING.

BEES—All in one-comb observatory hives:

1. GOLDEN ITALIANS—bees and queen:
   a. One year's subscription to Gleanings, by Louis H. Scholl.....$1 00
   b. One Root smoker, by Texas Seed and Floral Co 85
2. THREE-BANDED ITALIANS—bees and queen:
   a. One year's subscription to Gleanings, by Louis H. Scholl..... 1 00
   b. One Bingham honey-knife, by Texas Seed and Floral Co..... 85
3. CARNIOLANS—bees and queen:
   a. One year's subscription to Gleanings, by Louis H. Scholl..... 1 00
   b. Hive-tool, brush, imbedder, and wax-tube, by Texas Seed and Floral Co..... 80
4. CAUCASIANS—bees and queen:
   a. Subscription to American Bee Journal, by Louis H. Scholl 1 00
   b. Hive-tool, brush, and gloves, by Texas Seed and Floral Co..... 85
5. CYPRIANS—bees and queen:
   a. Subscription to American Bee Journal, by Louis H. Scholl 1 00
   b. Drone-trap and entrance-guard, by Texas Seed and Floral Co..... 80
6. HOLY LANDS—bees and queen:
   a. Subscription to American Bee Journal, by Louis H. Scholl 1 00
   b. A novice honey-knife, by Texas Seed and Floral Co..... 85
7. BLACKS—bees and queen:
   a. Bee-veil and gloves, by Texas Seed and Floral Co 1 00
   b. Manum's swarm-catcher, by Texas Seed and Floral Co..... 85
8. BUMBLE-BEES—bees and queen:
   a. Bee-veil and gloves, by Texas Seed and Floral Co 1 00
   b. Four Porter house-escapes, by Texas Seed and Floral Co..... 80
9. Best and largest display of bees of various races in observatory hives:
   a. One complete 10-frame comb-honey hive, by W. H. White 2 50
   b. One complete 8-frame comb-honey hive, by Willie Atchley 2 00
10. Best and largest display of queens of various races in mailing cages:
   a. One Jumbo smoker, by Texas Seed and Floral Co..... 1 50
   b. One "A B C of Bee-Culture," by Texas Seed and Floral Co..... 1 25
11. Best case of white section honey—12 pounds or more:
   a. One tested golden queen, by Willie Atchley 1 50
   b. One untested Carniolan queen, by J. W. Pharr 1 00
12. Best case of amber section-honey—12 pounds or more:
   a. One tested Holy-Land queen, by Willie Atchley 1 50
   b. One untested Carniolan queen, by J. W. Pharr 1 00
13. Best and largest display of section comb-honey:
   a. Two 2-frame nuclei, by J. W. Pharr 4 00
   b. One breeding queen, by A. Grant Anderson 3 00
14. Best display of special design in comb-honey:
   a. One tested Albino queen, by Willie Atchley 1 50
   b. One untested Carniolan queen, by J. W. Pharr 1 00
15. Best 12-lb. friction-top pails of white bulk-comb honey:
   a. One select golden queen, by J. W. Taylor 1 25
   b. One untested Caucasian queen, by J. W. Taylor 1 00
16. Best 6-lb. friction-top pails of white bulk-comb honey:
   a. One select golden queen, by J. W. Taylor 1 25
   b. One untested Caucasian queen, by J. W. Taylor 1 00
17. Best 3-lb. friction-top pails white bulk-comb honey:
   a. Select golden queen, by J. W. Taylor 1 25
   b. One untested Caucasian queen, by J. W. Taylor 1 00
18. Best Display of bulk-comb honey:
   a. One Italian breeding queen, by W. H. Laws 5 00
   b. One Italian breeding queen, by W. H. Laws 3 00
19. Best dozen jars of white extracted honey:
   a. Mushroom spawn grown by Udo Toepperwein 1 50
   b. One untested queen (Carniolan) by J. W. Pharr 1 00
20. Best dozen jars light-amber extracted honey:
   a. Comb-foundation, by Udo Toepperwein 1 50
   b. Mushroom spawn grown by Udo Toepperwein 1 00
21. Best display of extracted honey:
   a. Five Italian queens, by F. L. Aten 5 00

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b. One select tested Italian queen, by W. H. Laws 2 50
22. Best display of extracted honey in granulated form:
a. One breeding queen, by Udo Toepperwein 3 00
b. Comb foundation, by Udo Toepperwein 2 00
23. Best sample cake bright yellow beeswax, not less than 2 pounds:
a. Two Italian queens, by Grant Anderson 2 00
b. One select Italian queen, by Grant Anderson 1 50
24. Best and largest display of beeswax:
a. Comb foundation, by Udo Toepperwein 5 00
b. One select tested Italian queen, by Victor-Knolle Apiary Co 2 50
25. Best display in special designs in beeswax:
a. Select Italian queen, by Udo Toepperwein 2 00
b. Mushroom spawn, by Udo Toepperwein 1 50
26. Best display of fruit preserved in honey:
a. One Italian queen, by Udo Toepperwein 1 50
b. Mushroom spawn, by Udo Toepperwein 1 00
27. Best collection of honey-plants, pressed and mounted:
a. Comb foundation, by Udo Toepperwein 3 00
b. One Jumbo smoker, hive-tool, brush, and gloves, by Texas Seed and Floral Co 2 50
28. Best Honey-Vinegar:
a. One tested Cyprian queen, by Willie Atchley 1 50
b. One "Atchley Improved" queen, by Willie Atchley 1 50
29. Best instructive display in apiarian products and of various uses made of honey and beeswax:
a. One 8-frame colony of Caucasian bees, by Willie Atchley..... 5 00
b. Three untested queens, by Victor-Knolle Apiary Co..... 3 00
30. Best and largest display of bee-keepers' supplies:
a. One Italian breeding queen, by Victor-Knolle Apiary Co..... 5 00
b. One Italian breeding queen, by Victor-Knolle Apiary Co..... 3 00

LOUIS H. SCHOLL,
Chairman Committe on Exhibits.

New Braunfels, Texas.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Bees Deserting a Nucleus Hive

As I am a young bee-keeper and have run "up against it," I'll come to you for help. I have the Italians and the "blacks," as I call them. I bought an observation hive for one frame and I took out one frame of comb with brood and enough bees to cover the brood well, but the next day the bees came out of the observation hive and into the old hive, and there was not a single bee left. What was the trouble?

MINNESOTA.

ANSWER.—There is nothing unusual in the case. Take a frame of brood with plenty of bees to cover it, and without any precautions put it in a new hive, and the proper thing on the part of the bees is to go back to their old home. If you had fastened the bees in for about three days they would have staid. If you had taken bees that had been queenless for three days or more, you would have had less trouble. If you had taken the queen with them, returning her after 2 or 3 days, more of the bees would have staid. But you probably took them from a hive with a good queen, and they very properly resented such treatment. Please read "How to Start a Nucleus," page 409.

Do Bees Carry Eggs or Larvae?

Two partly-filled queen-cells were found on combs (that had neither eggs nor larvæ) placed above a queen-excluder, on a strong colony of Italian bees, which had also a dozen or more queen-cells below the excluder.

OHIO.

ANSWER.—Cases have been reported in which such carrying has occurred, although many are skeptical. Lately a case was reported in a foreign bee-paper by one of the prominent bee-keepers in which it seemed hardly possible that there could be any mistake. To a colony that had been queenless for more than a week, larvæ were given in Doolittle cell-cups. These cups were emptied out and 2 cells on the edge of the comb had larvæ in them.

Keeping Queens Over Winter—Replacing Queens that Die in the Mails

1. How can I winter queens reared this summer?

2. What is the most complete book on queen-rearing? Is the "A B C of Bee Culture" a complete book on rearing? I have read it, but I think it does not give me the information I want.

3. I have a number of queens that I reared, and will have no use for all of them for some time. In what way can they be kept alive until I should want them. I keep them now in small cages in a colony of bees, but this colony has a queen, and once in a while I find dead one of these queens that are in the cages.

4. I ordered a queen some time ago, and the advertiser had queens for sale at this and that price. I sent him my order, and when I received her she was almost dead, and only two of the attendants were alive. The queen died an hour after I received her, and I did not get time to introduce her. I wrote about it, also stating that it looked as if they had been on the road a very long time, and it was only about 400 or 500 miles. The queen was very dark. He wrote me if I would return to him the dead queen he would replace her. I did not think to take care of the dead queen, but threw her away. He said it looked to him as if some one must have exchanged queen on the road, as the queen he sent me was yellow. I sent him my money, but have no queen for it. Do all queen-breeders require the return of queens that happen to die? NEBRASKA.

ANSWERS.—1. The usual way is to winter them in weak colonies or nuclei in the cellar. Some have tried wintering in cages, but not generally with success.

2. Doolittle's "Scientific Queen-Rearing" is a book entirely devoted to that subject, and Alley's "New Method of Queen-Rearing" mostly so.

3. You can probably do no better than you are doing, unless it be to keep them in nuclei. You can economize in the number of bees in each nucleus by having several compartments in the same hive separated by bee-tight partitions, having a nucleus in each compartment.

4. I think it is common to ask the return of the dead queen.

Rearing Queens and Superseding

I have been trying your method of rearing queens by putting a frame with small starters in my best colony. Nine days later, on taking it out, I find the bees have filled the frame with all drone-comb. I have tried this a number of times. It is always the same—drone-comb full of honey.

Seeing so much about letting bees do their own superseding, I will tell you my experience of last fall. Fifteen colonies out of 75 had queens in their third year. I knew they ought to be replaced, but on looking them over in August I found the hives full of brood, the queens doing good work, so I let them alone. The result was that 7 died during the winter, and 6 superseded during April. The colonies are now worthless, so far as storing honey from clover. I find this so every year. Queens die during the winter or in early spring. I keep all queens clipped, so I can tell their age. After a good flow from clover a great many colonies will supersede the queens themselves, but there are too many that do not. It pays to look after the queens.

This has been the worst spring on bees ever known. The blacks are all starved out. The weather the past ten days has been fine and the bees are rolling in honey (June 24) where strong enough. The Italians are in good condition. NEW JERSEY.

ANSWER.—When bees are "rolling in honey," as you say yours have been, especially if they have little or no drone-

comb in the brood-chamber, a strong colony will often fill with honey empty combs put in the center of the brood-chamber, and fill with drone-comb an empty frame given them. If you will take from the hive 2 or 3 frames of brood with queen and adhering bees, and put the same in a hive on a new stand as a nucleus, and then give the empty frame next to the brood-nest, you will probably not have a cell of drone-comb built.

Under your conditions it would seem a good thing for you to take a hand in the superseding. I'd give something to know why your bees act differently from mine.

Wash-Boardy Honey—Shipping-Crates

1. Does wash-boardy honey cut down the grade any, or, in other words, would honey that would otherwise grade fancy, grade any lower on account of being wash-boardy?

2. What material or size of lumber does it take to make the shipping-crate shown in the enclosed cut?

3. Does there want to be any end play around cases?

4. If this is not the best crate, give size of material of the one you use.

MISSOURI.

ANSWERS.—1. I'm not sure that a wash-boardy appearance, unless very pronounced, would throw honey into a lower grade, but it would have some tendency in that direction.

2. A shipping-crate in which a number of cases are packed for shipment is generally made of rather tough material, which is only about ½ inch or so thick.

3. There should be no play in the crate whatever. Any vacancy must be filled with some packing material.

4. A good size for a crate is one that will hold 6 or 8 24-pound cases, or twice as many 12-pound cases.

Splints in Foundation—Bad Weather Conditions

1. How shall I use splints in foundation? I believe I have read your description, but forget. Wiring frames is slow.

2. I had bad luck the past winter. I lost nearly half of my bees, and with weather conditions as they are, the outlook is not very encouraging. Water froze here last night (June 8). There used to be some good crops of honey gathered in this region, but not so good of late years. The basswood is nearly gone. WISCONSIN.

ANSWERS.—1. In the book "Forty Years Among the Bees," page 88, you will find the following:

"Little sticks or splints about 1-16 of an inch square, and about ¼ inch shorter than the inside depth of the frame, are thrown into a square, shallow tin pan that contains hot beeswax. They will froth up because of the moisture frying out of them. When the frothing ceases, and the splints are saturated with wax, then they are ready for use. The frame of foundation is laid on the board as before; with a pair of plyers a splint is lifted out of the wax (kept just hot enough over a gasoline stove), and placed upon the foundation so that the splint shall be perpendicular when the frame is hung in the hive. As fast as a splint is laid in place, an assistant immediately presses it down into the foundation with the wetted edge of a small board. About 1½ inches from each end-bar is placed a splint, and between these two splints three others at equal distances. * * * A little experience will enable one to judge, when putting in the splints, how hot to keep the wax. If too hot there will be too light a coating of wax. * * * If a frame be given at a time when little storing is going on, the bees will deliberately dig away the foundation at the bottom; and even if it has been built down but the cells not very fully drawn out, they will do more or less at gnawing a passage. To make a success, the frames should be given at a time when work shall go on uninterruptedly until full-depth cells reach the bottom-bar."

2. Don't be in too much of a hurry about deciding that the year will be poor. Of course I don't know what the season will be; but I have known bees to be starving in June, followed by a good crop. Then again I've known a number of years in succession with poor crops or none, and it looked as if the days of good crops were over, and then came better crops than ever. Of course, the basswoods that have been felled are probably gone forever, but other pasturage may improve.

Brushing Bees at Night

Can bees be brushed successfully from one hive to another in the night?

CONNECTICUT.

ANSWER.—Yes, only it's likely to be unpleasant, because at night bees do more crawling than flying, and in crawling over one's person they are likely to do some stinging.

Three Swarms in Two Weeks

Will bees swarm 3 times in 2 weeks? First swarm came out May 25; 9 days later the second; the third 4 days later.

ILLINOIS.

ANSWER.—Yes, they may swarm more than 3 times in 2 weeks. The case you mention is rather slower than the average, which is about 8 days after the prime swarm for the first afterswarm, and 3 days later for the next.

Bee-Keeping—Average Yield Per Colony—Stingless Bees

1. Having just read an article on getting away from the strenuous life, in the Saturday Evening Post, in which some of your experience is given, I take liberty to ask: Is the article reliable, not overdrawn?

2. Is 100 pounds per colony an average or toward the maximum yearly yield?

3. Is it reasonable to suppose that a capable man can make a living of say $1,200 per year at bee-culture?

4. What of the newly-written-of stingless bees? MICHIGAN.

ANSWERS.—1. It is a temporately written article.

2. Hardly one or the other. One-third of that amount is nearer the average yield of comb honey, and half of it for extracted, while a maximum annual average might go to 150 or more. It must not be forgotten that the yeild sometimes is less than nothing; that is, no surplus is taken and the bees have to be fed to keep them alive.

3. Not many make so much. Some make more. The way to find out what you can do is to feel your way, beginning with from 2 to 6 colonies. It would be folly to enter bee-keeping on a large scale without first finding out what you can do on a small scale.

4. They are valuable as a curiosity. I don't believe any stingless bees will be found of any practical value as honey-gatherers.

Black Bees from an "Italian" Queen

1. We purchased an Italian queen from a breeder in Pennsylvania, and she was a fine, large queen, yellow almost from tip to tip. She was introduced to a black colony, and when her brood appeared it was as black as "coly." I have been in the bee-business for almost 25 years, and never witnessed this before. Have you a ghost of an idea as to the cause?

2. Give me your best idea on blacks rearing Italian queens.

3. I have "A B C of Bee-Culture," "How to Keep Bees," "Langstroth," and "Forty Years Among the Bees," and I thought that my 25 years' experience was something, but I am attending some black bees that are queenless. They will "feed" black eggs, but will not "feed" Italian eggs. You see I have just wakened up.

ANSWERS.—1. If there is no mistake about pure black bees being the progeny of a very yellow queen, then I give it up; never heard of such a thing before.

2. It is generally considered that the kind of nurse-bees has no bearing on the purity of the queen. I don't know enough to know whether that's entirely reliable or not.

3. Hard to believe that bees will discriminate against any egg on account of race, color, or previous condition of servitude. If you can get them to accept eggs or young larvæ of any kind, you ought to be able to fool them by throwing a young larva out of a queen-cell and transplanting in its place a young larva of the desired kind.

What Ails the Bees?

1. I don't know what to do with my bees, or whether to do anything with them. There is something the matter with them. The brood either chills, starves, or else there is some brood-disease among them. I can't tell which. Last summer there was a great deal of

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brood died. The larvæ when about large enough to seal over would die and settle down in the cells in a white, watery mass. Later on they would turn to a dark-brown color and dry in a scale over the lower sides of the cells. There is a slight odor of decayed matter, but the dead larvæ do not rope when you stick a toothpick into it. This spring, about the last of April, I examined my bees and found them in bad shape, they having the same trouble they had last summer, only a great deal worse. So in fruit-bloom I transferred them into clean new hives on starters, melted down the combs and put the hives where the bees could not get into them. Then I commenced to feed the bees. They built up slowly, but seemed to be healthy. As soon as blackberries and raspberries were in bloom I thought the bees would take care of themselves, and took away the feed. To-day, when I examined them, I was surprised to find them destitute of honey, and the brood dying as of old, so now I don't know what to do. All I did was to put back the feed. I have sent two samples to Mr. France and he does not call it foul brood, although he said it resembled European foul brood, but did not think it was. He advised me to feed and keep the bees warm. I have only three colonies left. What would you advise me to do? As all three of them are affected alike, every brood-frame is alike, or nearly so.

2. Would not bees in cool weather protect some of their brood so that one or two frames would hatch all right, or would they try to protect it all and make it scattered; that is, the bees that hatch, the rest dying?

3. What would be the express on a 2-frame nucleu shipped a distance of about 150 miles over two railroads?

ILLINOIS.

ANSWERS.—1. I am not an expert in bee-diseases, and Mr. France knows ever so much more about such things than I. You were very wise to apply to him. It is just possible that things would have been different if you had kept on feeding. It may be that when berries came in bloom the bees did not get enough, especially as the weather was unfavorable. You can do no better than to follow the advice of Mr. France.

2. When bees in a healthy condition are hard pinched with the cold, only the outer part of the brood-nest is likely to suffer; but in a diseased condition the cold may so devitalize them the effect may be seen through the entire brood-nest.

3. I don't think there is a uniform rate. Your station or express agent can tell you what it is on your line.

Bees' Use of Water—Swarming

This has been a pretty hard spring on the bees, and also on the beginner, as about 99 percent of the fruit has been killed, with the exception of some small fruit.

1. What do the bees do with the water they get in mud-holes?

2 Can you tell 2 or 3 days before a colony will swarm? If so, how?

3. What is the best way to get a swarm into a hive?

4. How far would a swarm go from the hive where there are plenty of trees and bushes around the hive?

KANSAS.

ANSWERS.—1. The same as they do with water from any other source; they use it for drink and to thin their honey.

2. If a colony has been working all right and then seems to stop work suddenly and hang out idly, while other colonies are busy, you may make a pretty good guess that it will swarm within a day or so. If you find queen-cells in the hive, some of them built out nearly full length, you may expect a swarm within 2 or 3 days. After a prime or first swarm has issued, you may expect a second swarm in something like 8 days, provided a second swarm issues at all.

3. That depends upon where the swarm is. If it's on a small limb of a tree, a very nice way is to cut off the limb, carry it quietly to the hive, and lay it at the entrance of the hive, allowing the bees to crawl in. Often it will be more convenient to set the hive on the ground, where the bees will fall at the entrance when shaken off the tree.

4. It may settle directly over the hive from which it issued, or on a tree close by, but sometimes on a tree or bush 10 rods away.

No Quilt Over Bees

If you don't use a quilt won't the bees go up and build comb against the roof of the hive?

WEST VIRGINIA.

ANSWER.—Yes, if there were room enough, but when neither enameled cloth nor quilt is used over the frames or sections—just a flat cover—there is only ¼ inch of space between the frames or sections and the hive-cover, and bees are not likely to build in so small a space.

Settling Swarms—Cow-Peas—Difference in Bee Eggs

1. When bees swarm, is it necessary, or does it do any good, to rattle bells, pans, or the like, to get them to settle? And when settled, about how long will they stay there when not hived? Do bee-men use the above method to settle bees?

2. Do bees gather honey from cow-peas? We had about 3 acres of cow-peas here last year, and it appeared that all our bees worked on them for 3 or 4 weeks, as it seemed that there were thousands and thousands, and the queer thing to me was that they did not work on the bloom, but on the joint just below the bloom or young pea. Was it wax or honey?

3. In regard to bee-eggs, is there any difference or distinction between the eggs from which a queen and worker are hatched or reared? If I am correct, bee-men use any egg they may come to when transferring eggs to queen-cells, and the difference results from the size of cell and the material on which the young bees are fed.

ANSWERS.—1. It would be hard to find any bee-keeper nowadays who believes it does any good to make any kind of noise with the view of getting a swarm to settle. Part of the performance is to settle anyhow, noise or no noise. The length of time bees hang after clustering before going off varies greatly. It may be more than a day, and it may be less than an hour. The best thing is to get them into a hive as soon as possible.

2. Cow-peas are counted honey-plants. There are different plants which, at least at times, secrete nectar elsewhere than in the blossoms. When you see bees working as busily as you say they were on your cow-peas, you may be sure they are getting either nectar or pollen. If you see no pollen on their legs you may be sure they are getting nectar. They don't gather wax, they secrete it; but they gather bee-glue.

3. An egg laid by a good queen in a queen-cell is precisely the same as one she lays in a worker-cell. A drone-egg is a different thing. A drone-egg is unfertilized and can produce nothing but a drone, even if fed in a queen-cell; other eggs are fertilized.

Nearness of Apiary to Highway—Bee-Houses or Hive-Covers

1. How close does the law allow an apiary to stand to the public highway? Mine are (the front row) 50 feet from the road, and a man having a horse stung says it will cost me something if I don't move them.

2. Can he make me move them? I can find no article concerning it in Cook's "Manual."

3. Which is the cheaper, to build bee-houses or hive-covers? NEW YORK.

ANSWERS.—1. I doubt there being any law on the subject in your State. If they sting people going along the road, you will do well either to move them farther away or to have a fence high enough so the bees will fly over the heads of passers-by.

2. There is probably no law by which he can compel you to move them, but you might be obliged to pay for any damage resulting from their stinging.

3. That depends upon the kind of houses and of covers. In general it will probably cost less for covers. Even if the covers cost more, probably most bee-keepers in this country would prefer them.

Observation Hives—Size of Cells

1. I am thinking of making an observation hive. Will the bees cover the inside of the glass with propolis so that I can't see through?

2. When kept in the house do they have wood casing over them?

3. How about that statement on page 449, of bees drawing out cells as the bottoms are filled with cocoons? It looks as if they would have to be spaced farther apart. Of course, you didn't make the statement yourself. TEXAS.

ANSWERS.—1. Not to a very great extent.

2. They might be kept with nothing

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over the glass, so as to be exposed to the light at all times, but generally they are kept covered except when actually under observation. They are not so contented under full light, and much more likely to cover propolis on the glass.

3. I heartily endorse every word that is said in the paragraph to which you refer. I have plenty of combs so old that the septum has been gradually increased in thickness until the septum in some cases is ⅛ thick. Of course you know that new worker-comb is 7/8-inch thick, and when you find a septum ⅛-inch thick you will find the comb 1-inch thick. That makes the cells exactly the same depth in the old as in the new, doesn't it? You are quite right that there is a practical difference in the spacing. When new combs are spaced 1⅜ from center to center, the alley-way between 2 combs is ½-inch. When the septum increases so the comb is 1 inch thick, that leaves the alley-way only ⅜. Whether it would not be better to increase the spacing when the combs become so increased in thickness is a pertinent question.

Straight Wired Combs from Starters—Queen Questions

1. Will bees build straight combs in wired frames with starters only on top-bars and end-bars?

2. Does the young queen destroy the surplus queen-cells, or do the bees do it?

3. I found a queen too feeble to crawl out after the cap of the cell was off. I split the side of the cell, lifted her out, and placed her on a comb. A week later she was missing. What caused her weakness? TEXAS.

ANSWERS.—1. Not as straight as when full sheets of foundation are used. Left to their own devices bees in a state of nature generally build their combs somewhat corrugated. This for greater strength. With only starters and wiring they will, of course, start straight, but as they proceed downward the corrugations will appear. If the hive is plumb to follow the wire, but if the wire is not just where the bees want the sep- and the wires straight, the comb is likely tum, then the wire can go its own way for all they care, and they'll put the septum where they want it. The greatest objection, however, to using only starters is the amount of drone-comb that will be built.

2. If the young queens in the cells are well advanced, the young queen begins the work and the workers finish it. If the cells are not much advanced, the workers attend to them.

3. I don't know. Perhaps some constitutional weakness.

Shiny Bees—Clipping Queens, Etc.

1. Why are there bees among the Italians that are very dark, almost glossy black sometimes, with no yellow bands and seemingly small, but smart and active at the same time? They are hunted up and driven out by the regular workers. Is it a disease or only a freak of nature?

2. Why do the bees of a nucleus, when first started by themselves, take spells of running on the outside of the hive and fussing at the cracks at the top of the hive, trying to get in, piling up in bunches and acting like crazy?

3. Is a queen reared from worker-brood in the comb by the workers that are queenless, as good and fertile as a queen reared in the regular way?

4. Can a queen-cell by careful handling, be cut from a comb and put into another comb for a colony, to any certainty, without injuring it in any way by pressure or exposure, or should it always be introduced on the comb on which it is built?

5. In addition to the foregoing questions, I would like to express myself as to the clipping of queens' wings, which in my estimation is one of the most foolish and most uncalled-for things that a bee-keeper can do. I received 2 queens last season which were clipped. The one came off with a swarm May 29, last, and fell some 10 feet from the hive, and I had quite a hunt to find her. She was put into a hive with the new swarm. The swarm came out the next day, and she was lost. They returned to the old hive and came out again on the 4th day, and went back, coming out again on the 9th day. If the queen had not been clipped, the first swarm would have been all right, as well as a second one. I can't see the advantage of having to look after the queen every time she comes off with a swarm. It is certainly a trouble and inconvenience, as well as inhuman and unnatural. PENNSYLVANIA.

ANSWERS.—1. They look black and shining because they have lost their plumage, and are probably worried by the other bees because diseased. A few such bees in a colony need cause no alarm; when there are many of them it may be a case of paralysis.

2. When bees are queenless it is a common thing for them to run about over the hive as if looking for their queen. I never saw bees of a nucleus fussing at the top of the hive trying to get in cracks, piling in bunches and acting like crazy, but I have seen robber-bees acting exactly that way. The likelihood is that the bees you saw did not belong to the nucleus but were robbers.

3. Not always; depends upon circumstances. If at a time when honey is yielding well, the colony strong, and the bees have their choice of eggs and very young brood, you can get as good queens as any. If the queen is reared when honey is not yielding, when no very young brood is present, or in a weak colony, you may count her of little value.

4. Thousands of queen-cells have been cut from the comb and fastened in or on another comb with just as good results as if left on their own comb. Indeed, in many cases, even when the cell is taken on its own comb, it is better to cut the cell and fasten it on the comb, for a large portion of cells are on the edges of combs where there is danger of their being chilled, and they should be centrally located where sure to keep warm.

5. A very large number of our most experienced bee-keepers prefer to have queens clipped. If a queen is clipped, there is some danger she may be lost when issuing with a swarm, but that is better than to lose both queens and swarm.

Wintering in Danzenbaker Hives—Bees Superior to Blacks

1. How do Grant Stanley and Vernon Burt winter bees in Danzenbaker hives? Do they double up, or winter in single brood-bodies?

2. Can I get a strain of golden or 5-banded Italians that will be superior to the blacks for honey-gathering? Also gentler?

I am a beginner and have 8 colonies in Danzenbaker hives. TAR-HEEL.

ANSWERS.—1. I don't know. Like enough in 2 bodies when a colony is strong enough.

2. The best of the goldens are better and gentler than the average blacks, for this country.

Transferred Bees—Ripening Honey—Plan of Wintering Bees

1. The past spring I transferred 2 colonies of bees. After the 21 days were up I united the young bees in the old hives, putting them on full sheets of foundation. I put in a frame of brood. I did not know whether there was a queen or not. In 2 or 3 days I looked into the hive and they had started 2 queen-cells on the sheet of foundation. In a couple of weeks I looked through the colony and found a queen. The 2 queen-cells were the same, just started. What is the meaning of that?

2. One person advises ripening honey artificially; another says, let the bees ripen it, for if you do the latter it will be travel-stained. After the cells are all filled with honey and capped, why not put the super on top of the others with a wire-screen between it and the other super and the hive? The bees can not then get on the honey, and the heat will be there just the same.

3. I am planning on wintering my bees outdoors. My stands are like that picture in the "A B C of Bee-Culture," on page 26, with 2 hives on a stand. I shall move both hives together, then I will make a box some 5 or 6 inches larger on all sides than the hive. This space will be for the chaff. The box will have a movable bottom and top. I will have a hole at the bottom so that the bees will fly out of the hive. I shall put on a honey-board for a cover to the hive, then put on an empty super, filling this with straw, then put on the outer case, filling the space with straw and then putting the cover on. Do you know of any better way, or improvement on this way? The reason I will use the honey-board is because I can feed the bees in the spring without opening the hive. I will use the pepper-box feeder. I use the Danzenbaker hive.
IOWA.

ANSWER.—1. If I understand correctly, there were only cups started, no eggs nor larvæ in them. I don't know what

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that means, but it is the common thing to find in colonies such beginnings of cells, and so long as they remain empty no significance is attached to them.

2. You do not say whether you refer to comb or extracted honey. When there is any discussion about having ripened in or out of the hive, extracted honey is the kind that is meant, and there is no harm in having extracting-combs darkened by the bees. As to comb honey, it is not desirable to remove it from the hive until it is sealed, and when it is sealed it is counted ripe. Yet there are cases in which it might be better to leave sections on the hive at least a while after they are sealed. I never tried ripening honey over a wire-screen, but I should not expect it to work the same as having it in the direct charge of the bees. To be sure, the heat would go up, and so would the moisture, and the bees would have no chance to ventilate to drive out the moisture. Besides, you would be likely to find such honey troubled with wax-worms. Very likely you will want to know how the moth's eggs can get there if all is so close that no moth can get in from the outside. I don't know how they do it, but I know they get there.

3. Your plan ought to work all right.

The Armstrong T-Super

DR. MILLER.—I express you today one of Elvin Armstrong's improved T-supers. He sent me 2 with a request that I send you one of them. He claims it is a great improvement over his original one. You know I liked that, and I hardly know whether the improvement is very great or not. All the difference is in the side-tins and the springs in one end. In the original the side-pieces furnished the supports for the tins. In place of the springs a board was permanent like the other end. In the original there was half a bee-space above and below, making a whole bee-space when tiered. Then, he has a machine to cut out tin the size of the section to put on each one. I hardly know whether I would care to bother with them or not. You see there is no chance for their tumbling to pieces as is claimed of yours. I think either kind is away ahead of the section-holders. I should like your opinion of them.

J. C. ARMSTRONG.

Marshall Co., Iowa.

Dr. Miller.—I send by express today to J. C. Armstrong two of my late improved T-supers, and I told him when they arrived to express one of them to you for your inspection. I want you to tell me just what you think of it, through the columns of the American Bee Journal. I believe I have something that can not be beat by any one. I think that man from Indiana who found so much fault with the T-super's allowing the sections to drop out so easily, if he could see one of these would change his tune, for you can just throw my super any old way, or even jump on it with your feet, and it is still there just the same. You will find 2 super-springs on the inside at one end. I think 2 or 3 pieces of section, or a piece of wood, will answer just as well to keep the sections up square and in place, and will be easier removed, and answer just as well. In my super you can remove any section, one at a time, or you can remove the whole 28 at once, and that with ease.

You will find a metal cap on one of the sections to keep the tops clean. I am getting a machine made to cut out the bee-ways to match the sections. I expect to use caps on all my sections. I believe they will pay for themselves in one year in keeping the tops of the sections white and clean, and then they will last a lifetime. Let me know what you think of the project.

We have had a very backward and cold spring. Bees did not get any good out of the fruit-bloom as it froze every night while in bloom. I have been feeding for some time, and will have to about 2 week longer, until the alfalfa gets in bloom. I have had 8 swarms. I put them in hives with full empty combs and am feeding them every day. Feeding my bees makes them strong and active in spite of the cold weather.

E. S. ARMSTRONG.

Colorado, May 30.

An objection to the T-super is that care must be taken in handling, so that the super be kept right side up, for if it be turned upside down, or if placed on an uneven surface so that some object may push up against the sections, they may be displaced. To be sure, there is no necessity for such wrong handling, but accidents may occur. Mr. Armstrong has gotten up a T-super in which the sections are securely fastened, so that they can not fall out when the super is upside down any more than they can when it is right side up. Of course, it is more complicated than the regular T-super. Instead of 3 T-tins it has 10—5 above and 5 below; and instead of the single follower on one side there are 4, one on each side and one on each end, although on one of the sides it can hardly be called a follower, as it is nailed on. To allow the upper T-tins to be fastened in place, one of the sides of the super is in 2 parts, the upper part being removable. Besides the usual wedges or springs crowding up the follower at the side, one of the end followers is crowded up in like manner.

While some may not think it worth while to be at the extra time and expense for so slight an advantage, others may think differently. C. C. MILLER.

[We would suggest to Mr. Armstrong that he advertise his T-super.—EDITOR.]

By W. A. PRYAL, Alden Station, Oakland, Calif.

Painting Hives

Some bee-keepers, I find, claim that it does not pay to paint a bee-hive. Paint is cheap, and it does not cost anything to put it on, as one can do it when he has nothing else to claim his attention. For this climate, I find lead and ochre, and lead and any of the metallic paints, the most durable. Two coats applied when the hive is new will easily last 15 years, but it is well to repaint them in 5 or 8 years. Where an apiary is near the ocean so that it receives the sea-breezes, the paint will be destroyed sooner than if it were inland. This is said to be due to the air being charged with salt.

Late Rains

After two months of the dryest kind of weather, we are having a spell of wet weather—a weather in which the rain falls in the night or in the early forenoon. The showers for the past 3 days—they began June 11th—have been sufficient to wet the earth down as far as where the moisture still remained. This will be a great blessing to truck-growers and those having small fruits, and all plants and fruits whose roots are near the surface. Honey-secreting plants will be benefited.

Then, it is pretty sure that the weather will not be so cool in the nights and mornings after these rains have cleared the atmosphere of the rain-making moisture. This will be of untold benefit. While the apiarist will be benefited, the farmer who has his hay cut, and, perhaps, his grain in the shock or stack, will have much of it ruined. Then, the cherry crop on the trees will be badly damaged. At our place the last load of cherries were sent to the cannery a couple of days before the down-pour came. (You see we had a message from the clerk of the weather that rain might be expected within a few days!)

The Weather in California

Owing to the bigness of California, the State has a variety of climates. Seven hundred miles and more of coast-line, with a reach inland of 200 miles, which cuts through snow-capped mountains in places and deserts in others, can not help but be responsible for varyinging climatic conditions. No matter how bad a drouth may be in a large portion of the State, there will be sec-

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tions the same year where abundant crops may be had. To mention all these things in detail will take up more space than is at my disposal in this department. This year abundant rains fell throughout the length and breadth of California, yet there will be a shortage of crops in some portions. Some kinds of fruits are a failure this season; so is the honey crop in other portions. The flowers were never in greater profusion, yet the nectar was "wasted on the desert air," as it were. Cold were the nights, and too oft the days were damp and dreary. The consequence was that the bees remained in the hives, or when they ventured out in such weather, they often perished from the cold. This was more the case in the lower coast counties than it was in the mid-ocean counties along the coast.

Inland the weather was more propitious. Here, near the Bay of San Francisco, the weather was not what we hoped for. Whole weeks at a time would be cool of nights and rather foggy up to 10 o'clock in the forenoon. Strange to say, during this cool spell, which has extended over 8 or 10 weeks, nearly every Sunday was a beautiful day—days well named. These Sundays were swarming-days as well as days for abundant honey-gatherings. The possessor of an apiary wished that every day was Sunday, not that he would be any more devout, but that his honey crop would be larger and his bank account be more swelled thereby.

From up the rivers I learn that there is little complaint. New honey has arrived in the San Francisco market in limited amounts and has sold for good prices—in some instances for 20 cents per pound. And the quality of the honey has been excellent. I have not tested such lucious honey since I was a boy. In those days our bees seemed to obtain nectar that reminded me of having been gathered from the flowers of sweet alyssum, so luscious was the flavor and so richly perfumed the odor. Early in April, this year, some of this choice honey found its way into the hives; the partaking of it carried me back to my boyhood days when we had American hives with honey-boxes above. But I must write the season a failure as far as I am concerned. Instead of three extractings per hive, I won't be able to make a single one from each of all the colonies—unless the unforseen happens.

Cheap Hives

What is there about a bee-hive that it should cost from $2.25 to $2.75? I have seen a single hive of rather ordinary make listed at the latter price. By the quantity, they come at a somewhat reduced price; but, nevertheless, they come high. I can go to a mill and get the top, bottom and sides for say 50 cents; division-board, 5 cents; a complete super, including holders, sections and foundation starters, should not cost 75 cents. The rest of the hive I would have of Eastern make, costing say, 25 cents, for the brood-frames; 2 cents for metal rabbets, making the total cost of a hive made of good, sound lumber, (whole pieces being used for cover, bottoms, etc.), $1.75; and, I believe, one can get such a hive as is needed in a commercial apiary for less than $1.50. It is not necessary to have the lumber dressed on both sides; in fact, the lumber stands wear and tear better when it is rough on the outside. I would have a hive always smooth inside. The rough outside should be given a coat of metallic or lead and ochre paint.

Tree Clover or White Broom

There are a number of varieties of this plant. It may be called a "tree-clover," hence the Greek name—*Citisus*. Bailey's Horticultural Encyclopœdia says there are some 45 species in Southern and Middle Europe, Canary Islands, Northern Africa, and Western Asia. Like most of the pea-shaped flowers, they are rich in honey. I have *C. proliferus albus*, or white broom, growing on our place. It thrives wonderfully well in California. It was introduced, I believe, by the University of California. It blooms in February, March and April, and is a favorite with the bees. It blooms in a year or two from seed, grows rapidly, but does not attain to much of a height, not over 20 feet, I believe. Owing to its being an evergreen and valuable as a fodder-plant for cattle, it is one of the best plants for bee-pasturage in California. I think it will do well in the Southern States as well as California. Seed may be obtained free by applying to the Agricultural Department of the University of California, Berkeley, Calif. The photograph here shown was made from flowers grown on our place.

WHITE BROOM.
Citisus proliferous albus, of Canary Isls.

The Slaughter of the Drones

The drone-killing days are here—
The saddest of the year.

There, now, that will do; no more tear-provoking gush, especially over such lazy gentry as the toiling worker-bees are now banishing pell-mell from their homes. "The drones must go, for the bees say so," might be a good battle-cry in beedom. And it would be put in practice just as sure as fate. It reminds me of the slogan of the Kearneyites of San Francisco in 1877—"The Chinese must go, for Kearney says so."

There is a time in the affairs of bees, which when—there again the poetic fancy o'ertakes me. But I can not help reflecting on the fate of the poor drones! They are worse than the proverbial dog. You may talk as you may, but it is not every dog that has his day—that is, a day for an ill-fate. But 'tis ever so with the drone. The husky fellow that wings his amorous flight to a successful conquest pays the penalty for his mid-air pleasure—he is soon "a dead one," and falls to the earth a useless nothingness. Then, the fellows of the hive who have tasted no other pleasure than plain honey from the combs, have to be justled and hustled, and kicked from pillar to post, as it were, and turned out of house and home to die—unhonored and unwept. All because there's nothing for them to do. What a fate! Nothing to do! There was something for them to do; it might have been a crowning pleasure for one drone in a thousand. But now the time is past: the flowers are gone; the harvest garnered; there are no more queens to rear—so out

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into the cruel world to perish from cold and hunger, the drones are driven. * * * "What a vast difference is the fate of man! Every one of whom may die in a palace with his boots nicely arranged beneath the bed!"

Yes, the drone-days are here, and I notice that they are somewhat ahead of the usual time. It is June 10, and the husky fellows are being slaughtered. Usually this does not happen until July. I noticed 5 weeks ago, during a brief lull in the honey-flow, that one or two colonies in the apiary began the work of destruction of the male occupants of the colony. Then the workers concluded, no doubt, that there would be no more honey to be gathered, and determined to cut off the useless consumers. But the flowers again gave forth of their sweetness, and the remaining males were spared—for a later fate.

And so Nature has set its mandate, and we all have to make our final bow at the proper time, and proceed to that bourne from which no traveler is said to return. Vale, ye drones; may our fate be a happier one than is yours.

Prices for Extracted Honey.

An article concerning wholesale and retail prices for extracted honey, by G. A. Deadman, contains the following passage (Canadian Bee Journal, p. 139):

"I said that honey should never go below 10c retail. I will go further than this. It should be at least 12c per pound in the home market, in small quantities. In 10-pound pails, say 11c; in a 60-pound tin at 10c per pound. The retail merchant then should pay 9c and the commission man or wholesaler 8c. When honey can not be bought by the wholesaler for less than 8c, then the retail price should not be less than 12c. If it can be bought at 7c, then 10c might be satisfactory."

Out-Door Feeding.

Feed is put in tubs full of alfalfa-stems or excelsior by E. F. Atwater (Bee-Keepers' Review, p. 172), and this is his plan for starting all his own bees at work promptly:

"At first we start the bees by breaking up some old combs into pieces about 1½ inches square. We dip these in the feed, lay one at the entrance to each hive, kick the hive if the bees are not numerous at the entrance, and so on. Then we go around and pick up the bits of comb, with bees at work on the feed in the cells, and carry them on a queen-excluder or escape-board, to the tub, where they are all dumped into the feed. In a few minutes every colony will be at work, and the feed will be gone long before many of your neighbors' bees find it."

Yellow Sweet Clover on the Same Land Each Year.

Sweet clover is a biennial, and it has been considered possible to have it blossom on the same land only in alternate years. Now comes J. A. Green, saying that by using the yellow variety a crop on the same land can be had each year. July 18, 1906, he gathered seed, sowed it between July 20 and 25, and this year it began to bloom May 5—285 days or less from the time it was sown. If the seed ripens this year as early as last, that means a crop each year on the same land. Quite a feather in the cap of the yellow variety, even if Colorado be the only State in which it will mature so promptly—Gleanings, p. 828.

Five-Banders not Hardy.

F. A. Lockhart says that in the past unfavorable spring his 5-banders suffered the most heavily of all; F. A. Salisbury says his extra-yellow stock are all "gone up;" and N. E. Cleaver tells practicaly the same story. Editor Root says:

"We have observed, time and again, that the 5-banded or very yellow bees do not seem to be able, for some reason, to stand a severe winter or a bad spring like the leather-colored stock."—Gleanings, p. 833.

Number of Colonies to the Apiary.

E. D. Townsend (Bee-Keepers' Review, p. 168) says:

"Our bee-yards never have more than 100 colonies at a time; and this is fall-count. With this number, fall-count, we usually have, after our winter losses and queenless colonies are deducted, somewhere between 80 and 90 colonies with which to commence the season."

Sampling Honey with Wooden Toothpicks.

Wooden Toothpicks are used by Walter Harmer for giving prospective customers a taste of honey. In one corner of his canvassing case he has a holder filled with toothpicks, and one of these is thrust into a bottle of thick, ripe honey, when enough will adhere to give quite a generous taste to the recipient. One of these can be given to each member of the family, children and all. Every one getting a taste of honey on one of these new clean pieces of wood feels sure that it has never been in some one else's mouth, while the amount of honey given is just about enough to whet the appetite for more.—Bee-Keepers' Review.

Doesn't Like Fences and Plain Sections.

E. F. Atwater says (Bee-Keepers' Review, p. 171):

"After an extensive test, extending over several years, we have discarded the fence-separators and plain sections, as inferior to the older styles. The solemn truth, for our localities and our markets, is that we get less honey in the new-fangled sections and supers, it is not so uniformly salable, and it does not sell for so much money."

The Gait of a Bee.

A bee, when it travels afoot, always moves 3 legs at a time; but it isn't a pacer. The front leg and the hind leg on one side move simultaneously with the middle leg on the other side.—Gleanings, p. 821.

Protective Value of Tarred Paper.

A novel sort of protection gained by using tarred paper is thus given by E. D. Townsend (Bee-Keepers' Review, p. 169):

"With the white building paper on some of our honey-houses, the mice make these houses headquarters. One of the most mice-ridden houses was at our Isabella yard. A year ago this house was papered with tarred felt paper, and we have never seen a mouse in that house since; neither have there been any ants there either. Then, we are quite sure that the robber-bees are not nearly so bad around a tar-lined house; at any rate, they have never troubled us in these houses yet. While I do not suppose that this paper would keep out robbers if one were careless and let them get started, still, I am satisfied that tarred paper is distasteful to the bees, as it is to mice and rats. If this proves so, there may be more in this tar than we realized at first. There is one objection to this dark-colored paper, and that is, the honey-house is not so light as if it were papered with white paper."

Just Plain Horse-Sense.

If you work for a man, in heaven's name work for him.

If he pays you wages that supply your bread and butter, work for him, speak well of him, think well of him, stand by him, and stand by the institution he represents.

I think if I worked for a man, I would work for him. I would not work for him part of his time, but all of his time. I would give an undivided service or none.

If put to the pinch, an ounce of loyalty is worth a pound of cleverness.

If you must vilify, condemn, and eternally disparage, why, resign your position; and when you are outside, damn to your heart's content. But, I pray you, so long as you are a part of an institution, do not condemn it. Not that you will injure the institution—not that—but when you disparage the concern of which you are a part you disparage yourself.

And don't forget—"I forgot!" won't do in business.—Elbert Hubbard, in Technical World.

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A Home Bee-Song.

The twilight bees to the comb,
And the wandering bird to the nest,
And the roaming sails turn home
Far out in the darkening west;
Home, home, they gladly drift,
Though the lawn was loved of the bee,
And the bird had loved the lift
As the sailor the open sea.

And I, who have wandered far,
Down unremembered ways,
With never a steadfast star
Through all these drifting days,
Now turn to an Inn whereof
I know one door stands wide—
And the rest is silence, love,
Till the world is shut outside!

—Arthur J. Stringer.

Spring Management and Swarming.

I will suppose that, on April 15, you have 100 fairly good colonies that were just taken from their winter quarters, and that each colony contains a good, well-developed Italian queen not over ten months old that has been reared from some good honey-gathering strain of bees. I shall take it for granted that your hives are filled with nice worker-combs.

We will commence the season's work by putting a feeder under every hive and giving each colony about 1½ cents' worth of extracted honey, or sugar syrup, which must be made very thin, of about the consistency of nectar, and feed them about this amount every day that the weather is such they can not gather anything from flowers until about the last of May. This will require on an average, one season with another, about 50 cents' worth of honey or sugar per colony; and, if properly done, you will have, May 25, every hive crowded with brood and maturing bees at the rate of 2000 or more a day.

About two weeks previous to this we should start the rearing of four or five hundred queen-cells, which are now, May 26, about ready to hatch. Now we will divide our colonies, making two of each, and fix them so that the queenless part will mature two or more of these ripe queen-cells or virgins into nice laying queens; then about the last of June we will separate these colonies that have two or more laying queens, making 100 more increase, or 300 colonies all together.

The old colony, or the part that has had the old laying queen from the first, we have kept busy drawing out frames of foundation into nice extracting-combs, and we have also kept them from any desire to swarm by taking their combs of capped brood away as fast as they had some to spare, and giving this brood to this newly-made increase.

In this way of managing your bees you will have no swarming to bother with, and at the same time you have increased your 100 colonies to 300, and all are in good condition for any harvest that commences after July 4.—E. W. Alexander, in Gleanings in Bee Culture.

Be Charitable—Nom de Plumes.

I wish our great family of bee-keepers would have more charity than they do for one another. Perhaps the majority *do* think well of their fellows, but there are a few who are too much given to fault finding, to seeing a man's faults and failings instead of his good qualities. I don't say that men or their actions ought never to be criticised or condemned; but many times are men fairly *abused* for something for which they are not to blame. I sometimes get letters accusing me very sharply of something for which I am not in the least to blame. If you think that a man has made a mistake, or has done wrong, it is not always best to ignore it or keep still about it; but before condemning a man, ask in a kind and courteous way for an explanation. Don't be ready to impugn a man's motives until you know all of the circumstances.

As a rule I do not approve of the use of a *nom de plume*. There are cases when modesty might be an excuse; where a man, or more likely a woman, might be willing to write but did not care for the resulting publicity. But when a man enters into a critical argument, and proceeds to "roast" some opponent, he ought to come out fair and square with his own signature. To strike a man in the dark, and then dodge behind a *nom de plume*, marks a man as a *coward*.—Editor Bee-Keepers' Review.

Taking More than One Bee-Paper.

I hold in my hand a very complimentary letter from one of our subscribers regarding the improvements that have been made in Gleanings from time to time. He thinks it covers the whole ground so thoroughly and so well that there is no use of his taking more than one bee-journal. While we appreciate most thoroughly this voluntary expression of our correspondent, I desire to say that I believe he is mistaken. If any one keeps bees for the money he can make out of them, he ought *by all means* to take not only one journal but two or three of them. Gleanigs does not pretend to cover the whole field of apiculture. The personal bias of an editor, even though that bias be unconscious, may cause him to emphasize certain development of bee-lore to the total neglect of all others. As I look over our exchanges I can see fields that they are covering that Gleanings is not; and, conversely, I can see fields that we are coverings that they do not.

W. L. Coggshall, perhaps the most extensive bee-keeper in the world, once said to me that he could not afford not to take all the bee-papers published in the United States; and that, moreover, he could not afford not to scan every page after they came into his hands. "But," you say, "he owns and operates some two or three thousand colonies, while I have only fifty. One journal is enough for me." Let us see how nearly correct that is. Suppose the average annual surplus is 25 pounds per colony, of comb honey. I am purposely putting the figures low so as to give my friend the benefit of the figures. We will say that he sells the honey for 15 cents at the commission man's, and that it nets him 10 cents clear. That will make $2.50 per colony, or $125 in all. I do not know of a bee-journal published but may contain some hint that will be worth several times the subscription price for the year. If three bee-journals cost $3.00, or on a clubbing basis $2.50, it would be very strange if our friend with fifty colonies could not get more than $2.50 out of them. While the net earnings can be increased on a conservative basis of only $10, take the benefit of the doubt and invest in two more journals at least. The farmer who takes only one agricultural paper, even the very best one, may miss some valuable hints which his more progressive neighbor is availing himself of, and, consequently, will be getting ahead of him in a business way.—Editor of Gleanings in Bee-Culture.

Reports and Experiences

Heavy Loss of Bees.

The loss in bees has been very heavy in this locality—about 90 percent. I should say. I have only 100 colonies left out of 300, but they are mostly in good condition, with good prospects for a honey crop.

I like the American Bee Journal, and feel that I can not afford to do without it.

Delaware, Ont., June 25. E. M. Husband.

Much Swarming.

There will be a very considerable decrease in honey-production in this locality this season. Swarming is free—I am averaging about 3 swarms a day (non-swarming stock!) By the way my supply-trade has increased and is holding out, others must be getting swarms, too. After the disastrous winter, I suppose in some occult way Nature demands the increase—a matter you may compare with the curious fact that the birth-rate (in Europe) increases with the increase in the cost of bread. George W. Adams.

Essex Co., Mass., June 19.

Poor Prospect for Honey.

The prospect for a honey crop in this locality is very poor. I have not had any swarms yet. In fact, the colonies are not in a very strong condition. B. G. Minnick.

Hardin, Mo., June 22.

Starved Brood.

I brought every colony through the winter and into spring all right; but, oh my, it was a "tug of war" to keep up brood-rearing in the long, cold, backward spring. I got the bees into summer in fine shape, all the same. The amount of *starved brood* that is in our Province now is something awful. Many of our bee-keepers are calling it foul brood.

Woodburn, Ont., June 24. Wm. McEvoy.

Light Crop of Honey.

It is very hot and dry here now. The honey season is closing up with, I think, generally a light crop.

I don't know just when I commenced taking the American Bee Journal, but back in the '70's. Father died in 1879 and we took it before that. How quickly the seasons come and go! You can always count on me as a subscriber. Long live the American Bee Journal! W. C. Nutt.

Belleville, Tex., June 21.

Cold Spring—Feeding the Bees.

I have 65 colonies of bees. About one-half of them are weak and the rest are fairly strong. It has been the coldest April, May and June up until about one week ago, that I remember ever seeing. During fruit-bloom it was so cold and cloudy that the bees could not work much. And now it is very warm and dry. The bees are on the verge of starva-

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tion. They are killing off their drones and no signs of swarming. I am feeding them sugar syrup in the open air to keep them alive till clover-bloom. The prospect for a honey-crop is anything but bright now, but I am living in hopes that we will get rain soon to help the clover, and that we may get some honey yet. GEO. H. ADKINS.

Ticonderoga, N. Y., June 15.

Bees Doing Better.

We had very poor weather all spring, cool and rainy, and nothing for bees to do, but on June 14 they started to work on white clover, which is abundant, and there is plenty of nectar in it. Basswood also is going to be No. 1. I have had only 2 swarms so far, but I made 4 nuclei which are as good as primary swarms. The honey-bee is my best friend and I give her the best care possible.

I kept black bees in the old country but they were different from the black bees the bee-keepers write about here in the United States. The common bee here is a mixture. The Italian and Carniolan are extra-good honey-gatherers if handled right, but do not look so nice as pure Italians. They are just as good workers, however.

LaMotte, Iowa, June 21. NICK JENTGEN.

Poor Season, but Improving.

The season was very poor here for bees up to about 2 weeks ago. They are doing nicely now on white clover; and the linden trees are as full of buds as I ever saw them. They will be in bloom in about 10 days. I think there is a good prospect of the bees making up now for lost time.

I divided 3 colonies about a week ago in our out-apiary. I looked into those colonies yesterday (6 in all) and they are all doing fine. We now have 7 colonies in this apiary.

(Rev.) J. W. STINE.

Durham, Iowa, June 27.

Bees are Backward.

Bees are very backward. No swarming yet. There is plenty of white and alsike clover in bloom, but the bees do not seem to be working on it. CHAS. DOAN.

Hull, Iowa, June 26.

Honey Crop a Failure.

The honey crop is a failure here. First white clover gain was June 2, and only 20 pounds gain in weight since, and mostly brood. I hear of bees doing well here, but it is in cases of one or more colonies in a place. It will not affect the honey crop in the least. If prospects do not change greatly soon, there will not be any Missouri honey. Indeed, I thought 2 weeks ago I should have to feed in June to keep them from starving.

Marceline, Mo., June 17. IRVING LONG.

Still Feeding the Bees.

I am still feeding my bees and the end of feeding is not in sight. The weather is quite warm now and we had rains week before last and the beginning of last week. There is considerable white clover in bloom, but the bees do not seem to get anything from it. I suppose the conditions are the same all over Iowa. If there is a flow anywhere I would like to have some bee-keeper write to the American Bee Journal and let us know about it. EDWIN BEVINS.

Leon, Iowa, June 17.

Swarming and Working Sections.

My bees are swarming and starting to work in sections. I think we will have a good season here. I have for main sources fruit-bloom, raspberry and blackberry, white clover, basswood, chestnut, aster, golden-rod, and buckwheat; also lots of other plants that give the bees almost a steady flow.

Jamestown, N. Y., June 17. G. B. BABCOCK.

No Prospects for Surplus Honey.

Bees are at least 2 months behind, with no prospects for any surplus honey before September. There will not be any linden bloom this year of any consequence, for there are no buds to speak of. Bees are gaining a little from white clover now, but not fast. Bees wintered fine, but oh, what a late spring! I had to feed for 2 months, owing to all of the early bloom having been killed, and if it had not been killed it was so cold that bees could not fly for weeks at a time. We have had fine weather now for some days, but it is too late for some things. I had to order some honey from Chicago for my own use, owing to having to feed so late, and so much. I hope for the better things in the future.

Mast, N. C., June 25. A. J. MCBRIDE.

Honey-Yield Small.

The sage is about out of bloom and the yield of honey is small at this apiary, but of extra-good quality, as the backward spring caused the bees to use up all the dark and mixed honey. DELOS WOOD.

Santa Barbara, Calif., June 19.

First Alfalfa Flow.

Bees have had a hard time this season here. The first alfalfa honey-flow is just on. It is the first flow of any kind since everything froze during fruit-bloom.

The American Bee Journal is well worth $1.00 a year to any one who has even one colony of bees. F. G. BARKER.

Salina, Kans, June 15.

Building Up for the Fall Crop.

The season has been excellent so far and all colonies that were strong enough have stored a nice surplus; but as the weather had been unfavorable for the rapid building up of colonies in April, and in May, it rained almost every day, most colonies came to the harvest in a weak condition, so that they could not take advantage of the harvest to the greatest extent. We do not expect a great spring crop, but this flow is certainly fine for the building up of all colonies for the fall flow, which is the one we mostly depend upon here for our surplus. The weather is fine at present, and we hope it will continue for a while longer. JULIUS HAPPEL.

Evansville, Ind., June 27.

Very Cold Spring.

We are having a very cold spring. Apples are just beginning to bloom. All weak colonies of bees have dwindled out. I have had to feed nearly all colonies up to now, but I think if the weather is good, we will get a fair honey crop yet. EDWARD RICARD.

Canaan, N. H., June 12.

Poor Season for Bees.

This is one of the poorest seasons for bees, as it is cold and rainy all the time. They go out but never return. Therefore the colonies are on the verge of starving at almost the first of June. If we do not get a change soon there will be no honey for bees or any one else. My bees came through the winter all right with plenty, but this weather is causing it all to be consumed. The supply-manufacturers will not be rushed this season for goods.

Hibbets, Ohio, May 27. HENRY BEST.

Cold Season for Bees.

I took my 147 colonies out of the cellar, all appearing very strong, on March 20 and 21, at a temperature of 85 and 93 degrees. A week later the weather "caught cold," and no amount of coaxing has been able to get rid of it. If the bees had not been in first-class shape, they never would have "stood the racket." One colony was extinct at the time of taking them out and it is there yet, and I mean to keep it there until warmer days. It had been marked "Very weak; watch" at the time of cellaring. All colonies were tar-papered, *a la* Hutchinson, on March 22, (hence before Hutchinson's tar-papering got into print). While I have lost some 20 colonies since from spring dwindling, I am sure the paper saved lots of bees. I afterward bought out a yard of 26 colonies and have at this time about 150. Some are yet very weak, but most would get ready for white clover with good weather, which will not be much short of 2 weeks yet. Dandelions are in "full blast" and we are hoping that overgrowth of moss, etc., can be mown off and let the sun shine through a little.

While we had several hard freezes while fruit was in boom, the fruit seems not to have suffered total loss, and apples seem to have been hurt but little, if any, by the frost. The only explanation I can advance for it is that the slow growth in a low temperature produced hardier buds and blossoms. Farm crops look fine. Corn needs dry and warmer weather. Judging from its appearance most farmers must have planted the "little yellow" kind this year. F. W. HALL.

Hull, Iowa, June 10.

Kerosene for Robber-Bees.

I had one of the worst cases of robbing I think I ever had. The robber-bees just swarmed in and around the hive. I closed the entrance so that but one bee could get in, and took some kerosene and painted the entrance and the cracks under the cover. Every bee left in 10 seconds. I went back in half an hour and found a few of the robber-bees hovering around, so I painted the open places again.

In painting be careful not to let any of the kerosene get into the hive. I do not remember ever seeing this cure in print, but it is *sure*.

Emerson, Ill., May 30. W. H. H. STEWART.

No Bloom and No Honey.

Weather conditions have been bad for bees since the last of March. My winter losses were few, but I have lost quite a number of colonies in the last 2 months. I am now feeding all colonies (about 100) in order to keep them alive, and keep up brood-rearing. There is no honey in any hive and there is no bloom from which the bees can gather it, and what is worse, there is no white clover in the fields. There is no telling how long the feeding will have to be carried on, probably for many weeks. EDWIN BEVINS.

Leon, Iowa, May 29.

Coldest Spring in 24 Years.

The oldest settlers say that this has been the coldest spring since 1883. Grain that was seeded April 30 has not come up yet. The dandelions have not commenced to bloom yet, nor the fruit-trees. So far there is no sign of buds to speak of. On May 19, last year, I extracted dandelion honey. This year there will be no extracting for 2 weeks at least from date. I notice the Southerns have their troubles, too, so, according to reports, the honey-market will not be clogged this year.

CHAS. O. BERGSTRAND.

Amery, Wis., May 27.

Bees Carrying Water at Night—First Recorded Midnight Play-Spell of Young Bees.

It is all right to be suspicious when anything is reported, yet as Mr. Miller says, "It is not safe to deny something because it did not come under one's observation."

In the controversy between Mr. Hasty and myself, I wish to state that an error occurred in my last article. While I have seen bees at night around a certain barrel right at my house, I incidentally remarked that although plenty of bees are to be seen in daytime around my pump, none could be found there at night. Not all of my colonies sent out water-carriers at night, only those *strong* colonies having a clear track, clear right of way on hot nights. However, last fall, after bees had stopped night work for 5 or 6 weeks, one colony sent one water-carrier as late as either Wednesday or Thursday on November 3, and also another on the first Sunday in December.

To satisfy my own curiosity I made the following experiments:

1. With a Monette Queen-Clipping device I captured several bees (one at a time, of course), to see whether that certain colony whose night-worker was lost, would send out another, as never more than a single bee goes out of a hive after water. At least I have never seen it otherwise. While this caging interrupted for a while at least the water-carrying(the same work was resumed later on. Right here I wish to remark that bees never fly inside the barrel at night as they do in the daytime; no, they fly on the rim of the barrel on the side nearest the hive, and "foot it" or "leg it" down to the water.

I next wanted to know whether it was the same bees over and over again in the same and a few following nights, but failed. I remembered reading something about painting bees and queens with a quickly drying powder. Why could not I paint this night-shift of bees? After looking in vain for such a powder in a few great Chicago mail-order catalogs, I used alternately coach-paint, red,

green, and also the common white lead, painting of course only the thorax. The hive whose bees were painted stood almost at the head of my bed, and the barrel only a few feet of the other end. After painting and knocking the bee back, for she crawled again to the rim of the barrel, I anxiously awaited her return to the hive. But, oh, like George Rossett, the Syrian leper from West Virginia and New Jersey, so these red and green backs and white caps were unceremoniously hustled out of the hive. Sailing under false colors is certainly not allowed inside a bee-hive.

I next tried meal smut, sifted red brick-dust, and sulphur, but could not satisfy my curiosity. So as not to be confused by bees from other hives, all hives sending out water-carriers at night were thoroughly sprayed inside. This stopped them. Slightly spraying the alighting-board, I had found out a few nights before making the last experiment, had no effect whatever.

Mr. A. I. Root tells us in Gleanings how during some beautiful Florida night his rooster got fooled and came down from his roost. Last June, about the 20th, most farming operations were over and a little idle time was spent in queen-rearing *a la* Doolittle. Ten frames containing mostly sealed brood were raised above an excluder about this time. There only one night—but I don't know for certain on which night, the 5th, 6th, or 7th of July, 1906—out came a part of my young bees, probably 50, enjoying a play-spell by the light of the moon, probably about midnight. Why could not these same young bees come out on the glorious 4th? And they might, but I don't know. I think, however, it rained the night following the 4th of July. These night-playing bees also made their circles quite small, no higher than the roof of the second full story, and no more than 2 feet from the entrance of the hive. But here I ran into another puzzle. The hive contained quite a multitude of young bees, for I watched for the play-spell on the following day. Why couldn't the whole crop of young bees take their play-spell by the light of the moon, why only a part, and why circle so close to the hive?

Right here I wish to say the play-spell lasted only about 8 or 10 minutes, and old bees were going in and out before and after the play-spell right along, working on corn-tassels and also on partridge-vines. I am glad that Mr. Hasty, although doubting the water-carrying at night, acknowledges the same quality of his well-settled hybrids when "enticed by his light," viz: Why does only one bee at a time butt against his lantern?

Fort White, Fla., May 27. D. J. PAWLETTA.

All Colonies Light.

At this date my bees are living on sugar syrup. White clover is beginning to bloom, and the bees are working on it some. All colonies are light for the time of the year, so I think the prospect anything but flattering for the season. R. B. ARNOLD.

Lovilia, Iowa, June 6.

Best Year in a Long Time.

I see in the American Bee Journal that the prospect for honey is pretty blue in many places this year. We had a somewhat late spring and little pollen came in up to March 10, but the bees came out well. I had about 29 colonies and lost 4 from queenlessness, and was prepared to increase to 50 colonies, but so far I have had only 2 swarms. The most of my colonies are working in the second super (full-sized Langstroth 10-frame) for extracted honey. It is the best year I have seen for a long time—fine weather right along. It has not been warm, but the bees have been lugging in honey, and if it will hang on, it will be a bumper crop. O. K. RICE.

Grays River, Wash., May 29.

Handling Bees for Others.

Since taking the American Bee Journal, about 7 years ago, I have lost from foul brood, etc., all of my bees—about 40 colonies. If I had had time I could have cured it by transferring, etc., but I finally thought best, under the circumstances, to destroy them.

Bees do well in Walla Walla valley, averaging usually 2 to 3 supers—48 to 72 pounds.

Lately Mr. A. L. Melander, from Pullman, Wash., State bee and fruit inspector, was in this valley looking after the foul brood. He is doing a great deal of good and arousing considerable enthusiasm with bee-keepers.

I handle quite a large number of bees for others each spring. I have a good equipment and I charge 50 cents an hour, or $4 per day. I have more calls than my limited time will permit. In all cases I have made it pay the owner double or triple. People generally have their bees in old boxes and get very little honey, and that in bad shape. Others have the standard hive with the tin rabbet in wrong, the division-boards in the center, without foundation-starters in, or put in so loosely that they fall down with heavy swarms. I shape them up at the rate of 15 to 25 colonies per day.

My method for transferring is to place the new hive on the old stand, place the old hive with the bottom ripped off on top of the new hive, then smoke them down a bit and proceed with chisel and hammer to rip the old hive to pieces. I save enough of the best brood to fill a Langstroth frame, which I get inside the hive as soon as possible so as not to chill the brood. This gives them a chance to hatch a queen if I fail to get their queen transferred all right, which is seldom. I then leave them alone for fully 10 days, as I fancy if they are disturbed before the queen-cell is capped over they may destroy the growing queen by eating out the royal pabulum. I often put several dilapidated colonies into the one new hive. I don't save the old combs as I haven't the equipment for rendering the wax. I enjoy the business immensely, and I mean to cut out other business and take up the bee-business exclusively. I have only 16 colonies now. They are without foul brood. Several have stored one or more supers full of nice white locust honey already.

Bees in this valley rarely ever winter-kill—outdoors all winter.

When I was at the business before, I made quite a thorough study of it in all lines, and by introducing Italian queens I had all Italian bees. A. L. MCFARLANE.

Walla, Walla Co., Wash., June 15.

Late and Cold Season.

Bees are strong this spring and are casting strong swarms. I have had 4 very strong prime swarms this spring. The spring season being late and cold, bees are hardly getting enough honey to live on. I hope the prospect for a good honey crop will brighten as the season advances. WILLIAM H. HEEFNER.

Mont Alto, Pa., June 3.

A Discouraging Outlook.

We have just had a week of cold rain, and bees are doing nothing. I am feeding them and will have to feed for 2 weeks more. We have had 5 freezes since fruit-bloom, and there is nothing for the bees to do. The first crop of alfalfa was frozen and cut for hay. The second is short on account of cold and drouth. I don't know if the bees will store any surplus honey this year. It looks like a poor proposition. No fruit of any kind this year. J. J. MEASER.

Hutchinson, Kans., June 1.

Good Place for Bees.

I now have 20 colonies of bees. I sold $40 worth of honey last year. This is a splendid place for bees—white clover on one side of my farm, and smartweed and basswood on the other. I like bee-work very well.

I expect to increase my apiary gradually as I want to understand the work and management of the bees better than I do now, before I go into it too heavily.

I have been reading the American Bee Journal for over a year, and I like it very much. W. R. MOORE.

Hume, Mo., June 27.

Queen's Laying—Finding Queens.

The one who claims in Gleanings that the queen lays drone or worker-eggs according to the *curvature* of her abdomen, is hereby requested to rise and explain how it works when the queen lays drone-eggs in worker-cells, or worker-eggs in drone-cells. The abdomen of the queen is much longer than either kind of cells, and therefore the curvature must be about the same in either case.

For several years I have been using, to some extent, feeders placed permanently under the hive-bottoms, and to which the bees had access through a hole in the bottom-board. Very frequently when I open the hive and smoke the bees the queen runs off and takes refuge in the feeder. The funniest part of it is that until a few days ago, I never thought of taking advantage of it to secure the queen, without having to look over the combs and hunt her up everywhere. ADRIAN GETAZ.

Knoxville, Tenn., July 2.

CONTRIBUTED ARTICLES

(Continued from Page 587.)

Vegetable Physiology and Honey

BY PROF. A. J. COOK.

It is a good thing that we have such a good Weather Service. We may never know how much the weather has to do with success in the various affairs of life. We know how bad weather interferes, oftentimes, with the fun we had planned at a picnic, maybe keeping us at home altogether. We often remark how fortunate we are in California as we can generally count on good weather from April to November, and so can safely count on planning a picnic at any time in summer, and the weather will not say us nay. We know how a lack of winter rains will surely cut off the honey crop in the arid regions, and severe drouths as surely foretell failure in the East. I remember in the late '80's how we had 3 years in succession, with no honey at all, and without doubt the drouth was the cause, as we have never had such a failure in all the previous years of my bee-keeping from 1870 on to these 3 very dry years. The present season has been very cold all over the country. In Kansas it has been as dry as cold, while in Michigan and Ohio, it has been as wet as it has been dry in Kansas. In all these regions it has been a very poor honey-year. Is it possible to explain this coincidence, of lack of honey and these weather conditions?

We know that sap is to the plant what blood is to us. Sap, like blood, not only carries all the nourishment to the needy cells, but it is the food. We know that water is the most important part of the blood and of sap as well. We see, then, that growth, secretion—yea, the very life of the plant is dependent on water, and we no longer wonder that the plant so soon wilts, withers and dies when the water is withheld. Life and cell-nourishment are more important than is fruiting. But nectar-secretion is connected with fruiting, and we should expect that when there is a shortage of water, the life would be kept up, at the expense of fruit, and so we no longer wonder that the trees fail to secrete nectar—may fail to bloom at all, when the ground at the roots dries up. We used to think, in California, that we were sure of a honey-year when we had plenty of timely rains. But the two years just past make us change our views, and so we need to consider another urgent need of every vigorous plant.

The roots of the plants take from the soil the water, and in solution in this the needed mineral elements. These are carried from cell to cell in the sapwood, to the leaves as crude sap. The leaves may be said to form the manufactory of the plant. We see, then, why one reason plants rest in the winter—that is, deciduous plants—they have no leaves. The leaves take carbon dioxide

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from the air, and by use of this and water, they form sugar, starch and most the vegetable products. But there is one indispensable condition to vegetable work or nutrition. There must be light and heat. At night the plant ceases work for the most part, as it has not the necessary light. We know how pale and sickly a plant looks under a board. It is without light. The green part of twigs and leaves—the chlorophyll, as it is called—can form only in the light, and without chlorophyll the plant is unable to do its work. Warmth is also necessary to the best work and growth of all plants. Cold, then, stops the functional activity of plants just as surely as it does of animals. In case there is too little warmth, the plant may live and make meager growth, but it will not secrete nectar, and may not even bloom. Thus we may easily explain why these cold seasons preclude the existence of nectar in the flowers, and of honey in the hive. In case the cold is very pronounced, it even shuts the bees in the hives, and they do not go forth to gather what they would seek in vain when the weather is cold and inclement.

There is one more point that is not so important to the exclusive bee-keeper, but is of exceeding moment to the fruit-grower. I refer to the fact that many of our most important fruit-trees and vegetables are sterile to their own pollen. Thus though they will bloom, they will not fruit unless they are cross-pollinated. They will therefore fail, utterly, to fruit, unless they are cross-pollinated. All flower-loving insects will aid in doing this necessary work. But where we have massed our trees as we have in our orchards, the bees are required to effect this work as there are not enough of other nectar-loving insects to do it. Thus we see why we are likely to have a meager crop of fruit in such years as this has been. The cold keeps the bees in the hive, and so cross-pollination is not effected. Even if the bees do go forth, there is no nectar to attract them to the flowers and so there is still a lack of cross-pollination, and as surely a shortage in the yield of fruit. It is plain to be seen that the fruit-grower just as much as the bee-keeper is dependent upon the warmth, the rains, and the bees for the best success.

The Season of 1907.

I have of late passed through our country from California to Ohio, and have stopped off for a time in Kansas, Illinois, Michigan, and am now enjoying life as a "Buckeye," and everywhere I have found a very cold, backward spring. This has hit the fruit-man hard, and so far has been discouraging to the bee-keeper. It is safe to say that the fruit crop will be light in very many parts of our country. The cold in many cases has actually killed the bloom, and in many other places the cold has prevented cross-pollination, and so the fruit has failed to set and has dropped from the trees. The outlook for honey is not so bad. The rains in many localities have been very generous, and now the weather has warmed up, and there is yet time for an abundant yield of honey. It is a fortunate circumstance that the season is in many places at least 3 weeks behind the usual season at this time of the year. The bloom of clover and linden will be late, and this will give the bees a better opportunity to fill the hives.

Specialists in Bee-Keeping.

We all remember how well Messrs. Hutchinson, Heddon and Taylor argued in the olden time in favor of exclusive bee-keeping. Some of these did not "take their own medicine," as they were as successful in other lines as in their favorite work with the bees. I have of late visited several former friends. I find most of them keep bees in connection with their other farm work. They say it pays well, and, besides, they are assured that the bees are a very essential aid in their farm operations. I am delighted as well as surprised to find how generally the bee's importance in agriculture is coming to be appreciated. I have long felt that farming would be more successful if every farmer kept and enjoyed several colonies of bees.

Columbus, Ohio, June 20.

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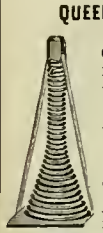
Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.40. **Free** for 8 new 25c subscriptions.

BEE-KEEPER'S GOLD-NIB FOUNTAIN PEN

A really good pen. As far as true usefulness goes it is equal to any of the higher-priced, much-advertised pens. If you pay more it's the **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ⅗ actual size.

Price alone, postpaid, $1.25. With a year's subscription, $1.40. **Given free** for 8 new subscriptions at 25 cents each.

QUEEN-CLIPPING DEVICE



The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

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IDEAL HIVE-TOOL

Exactly half actual size.

A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apiary. Made of malleable iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1 7-8 inches long, 1-2 inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, January 7, 1907; "I think as much of the tool as ever."

Price alone, postpaid, 30 cents. With a year's subscription, 45 cents. **Given free** for 3 new subscriptions at 25 cents each.

PREMIUM QUEENS

These are untested, standard-bred, Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for 1908 queens. Safe delivery guaranteed. Price, 75 cents each, 6 for $4.00 or 12 for $7.50. One queen with a year's subscription, 90 cents. **Free** for 5 new 25c. subscriptions.

HUMOROUS BEE POST-CARDS

O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME;
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3½ x 5½, printed in four colors. Blank space 1¾ x 3 inches is for writing. Prices 3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, 40 cents. 5 given free for every 25-cent subscription, if requested, and no other premium.

BOOKS FOR BEE-KEEPERS

Forty Years Among the Bees, by Dr. C. C. Miller.—344 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures, taken by Dr. Miller. It is a good, new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price alone, $1.00. With a year's subscription, $1.15. **Given free** for 7 new subscriptions at 25 cents each.

Advanced Bee Culture, by W. Z. Hutchinson.—The author is a practical and helpful writer. 330 pages; bound in cloth, beautifully illustrated. Price alone, $1.20. With a year's subscription, $1.35. **Given free** for 8 new subscriptions at 25 cents each.

A B C of Bee Culture, by A. I. & E. R. Root.—Over 500 pages describing everything pertaining to the care of honey-bees. 400 engravings. Bound in cloth, price alone, $1.20. With a year's subscription, $1.35. **Given free** for 8 new subscriptions at 25 cents each.

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"The Honey-Money Stories."—A 64-page booklet. Containing many short, bright stories interspersed with facts and interesting items about honey. The manufactured comb-honey misrepresentation is contradicted in two items each occupying a full page. Has 33 fine illustrations of apiaries or apiarian scenes. It also contains 3 bee-songs. This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, 40 cents. **Given free** for 2 new subscriptions, at 25 cents each.

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A stiff board outside like a book-cover with cloth back. Will hold easily 3 volumes (36 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price postpaid, 75 cents. With a year's subscription 90 cents. **Given free** for 5 new subscriptions at 25 cents each.

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BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10½ inches wide, by 9¾ inches high. Design is a straw skep with clock face in middle. Suitable for parlor—an ornament for any place. Keeps excellent time, durable and reliable. Weight, boxed 4 pounds. You pay express charges. Price, $1.50. With a year's subscription, $1.65. **Given free** for 10 new subscriptions at 25 cents each.

Queens of Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the Bee-Keepers' Review, Flint, Mich., says: "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen."

My queens are all bred from my best long-tongued 3-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested Queens, $1 each; six, $5; doz., $9. Select, untested, $1.00 each; six, $5; doz., $9.

I am filling orders *by return mail.*
Safe arrival and satisfaction guaranteed.
Descriptive circular free. Address,

J. P. MOORE, Queen-Breeder,
Rt. 1. MORGAN, KY.

TAYLOR'S STRAIN OF ITALIANS IS THE BEST

Long-tongues and goldens are the best of honey-gatherers; 18 years a specialty, breeding for the best honey-gatherers. Untested, 75 cts. each, or $8.00 a dozen; tested, $1.00 each, or $10.00 a dozen; select tested, $1.50 each. Breeders, the very best, from $3.00 to $5.00 each. Carniolans, same price as Italians. Try them. We sell nuclei and full colonies. Bees in separate yards. Safe arrival guaranteed. Send all orders to

J. W. TAYLOR & SON, Beeville, Bee Co., Texas.

Your Order for Queens

Will be promptly filled. We can supply both tested and untested Italian Queens, your choice of either imported or home-bred mothers.

Our bees are bred for business; our Queens will not disappoint you. Tested Queens, $1.00 each; Untested Queens, 75 cents; $8 per doz.

J. W. K. SHAW
20Atf LOREAUVILLE, Iberia Pa., LA.

MINNESOTA QUEENS

Nothing Better. Try Them.
Three-band and Golden Italians.
We warrant our bees free from disease of any kind, and guarantee safe arrival of all queens. We want your orders and will fill them promptly on and after June 1st, at 75 cts. untested, and $1.25 for tested of either strain. A postal will bring you a circular. Send your orders to

MENNIE & FENTON,
Pine Island, Minnesota.

Angel's Golden Beauties

AND HIS

Bright Three-Banded Italian Queens

Have but few equals and no superiors. A fine, large Queen of either strain for $1; an extra-select breeder for $2.50. Have had 12 years' experience at queen-breeding. Address,

SAMUEL M. ANGEL
20A13t R.R. No. 1, EVANSVILLE, IND.

HERE IS YOUR CHANCE

Select Italian Queens by the hundreds after July 15. Virgins, 1 to 5 days old, 30c; doz., $3. Untested, 60c; doz., $7. Tested, $1. 2-frame nucleus, $2; full colony, $10. Big crops of honey prove the stock. Cash with orders.

GEO. N. REA, Maplewood Apiary, R. 2, Reynoldsville, Pa.

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Don't Close a Deal for any Digger Until You Try the O. K.

If you're going to buy a digger you want the best digger built. We're going to help you get it and prove to you that it is the best before you buy it.

We propose to ship you one of our **1907 O. K. Potato Diggers** and give you an opportunity to test it thoroughly on your own farm.

See for yourself just what it will do for you.

If it **backs up our claims** it is certainly ahead of any other digger ever devised.

Will You Try It? Write today for full information and our **free trial plan**—don't close a deal for anybody's digger until you give the O. K. a trial.

Try It at Our Expense

Write Today For Our FREE TRIAL OFFER

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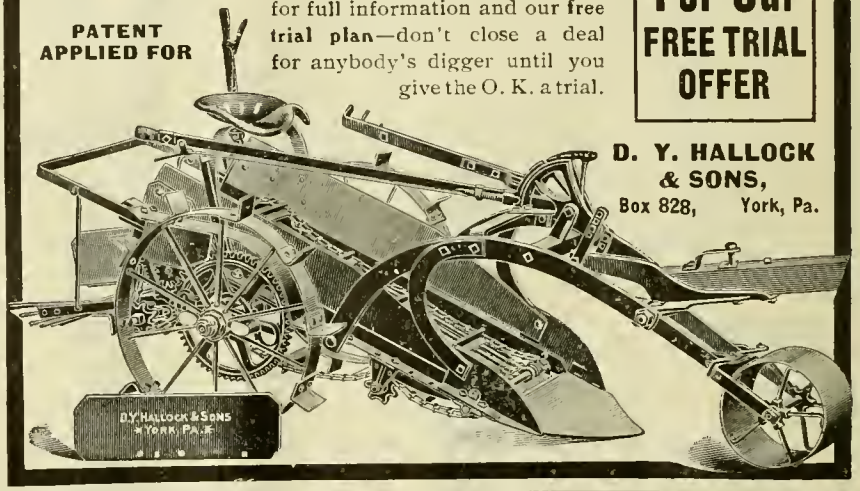

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If you have not investigated the Prairie State Brooder No. 5 you ought to get busy because it is one of the most satisfactory brooders ever made. It is portable making it desirable for use in any kind of a poultry house or as a colony house on the open range without any change. Being enclosed (see cut) it can be used as an individual lamp brooder in colder localities than the plain Universal Hover can be alone. Top is covered with a removable Cloth Screen instantly changing it from a winter to a summer brooder. Hover lifts out making it easy to clean. Consumes but little oil; supplies abundant ventilation even in hottest weather; top affords sun shade. We can't tell all its good features here—

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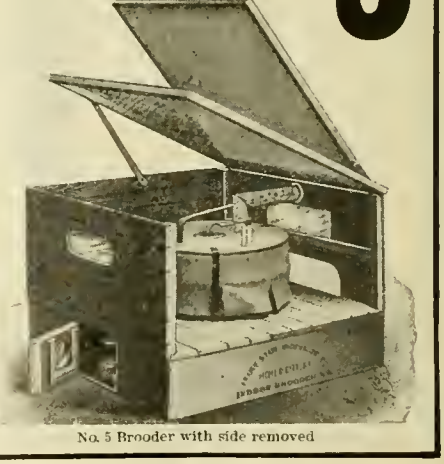

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Get Our Brooder Catalog

showing it in several forms and describing its many useful adaptations. With the No. 5 chicks can be raised during June and July unusually successful. We will also gladly mail our 1907 Incubator catalog which tells why the Prairie State hatches extra large, strong chicks with greater ease and certainty.

Prairie State Incubator Co.,
522 MAIN STREET HOMER CITY, PA.

American Bee Journal

Well-Bred Queens

Will greatly increase the yield of honey. Am now taking orders for **Cook's Select-Bred Queens**—to be sent as soon as weather permits mailing. Also Caucasian Queens from imported stock.

Cook's Square Honey-Jar is the best, cheapest, and most sanitary package for retailing honey. Send for circular and price-list of Hives, Bees, and useful Implements.

J. H. M. COOK

70 Cortlandt Street, NEW YORK, N. Y.

The Oldest Supply-house in the East, and only Reliable Goods sold.

10 cents brings sample jar by mail.

17A13t Mention the Bee Journal

ITALIAN QUEENS

That are bred from the best stock this country can produce Bright Golden and 3-banded Queens ready to ship May 20. I am now booking orders which will be filed and filled in rotation. After May 20 all orders will receive prompt attention. Untested Queens 60 cents each; 6 for $3.35, or 12 for $6 50. Tested, $1.00, or 6 for $5.50. 2 frame nuclei with Young Queen afer June 1, $2.00 GEO. W. BARNES,

15A26t Box 340. Norwalk, Ohio.

3-Banded Italian Queens

J. P. Moore or my own strain. My apiary is stocked with thousands of choice drones that are not kin to my breeding queens.

Queens, $1 each; dozen, $10

I guarantee satisfaction, and superior honey-gatherers. **W. M. Parrish,**

23Atf R. R. No. 8. LAWRENCE, KAN.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

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Bee-Supplies and Berry-Boxes

Lewis B ware at Factory Prices. Bee-keepers, club together, send me list of goods wanted, and let me quote you prices, I give the regular discounts. Beeswax wanted. Send for Catalog.

6Etf **W. J. McCARTY, Emmetsburg, Iowa.**

CORN HARVESTER cuts and throws in piles on harvester or windrows. Man and horse cuts equal with a corn binder. Price $15. Circulars free, showing Harvester at work.

NEW PROCESS MFG. CO., Salina, Kansas

A NEW BEE-SUPPLY HOUSE

AT LITTLE ROCK, ARK.

I am prepared to furnish you the best of bee-supplies, manufactured by The A. I. Root Co. Let me send you my catalog of bee-keepers' supplies. Also have for sale the very best strain Italian queens and nuclei or full colonies. Satisfaction guaranteed.

W. J. LITTLEFIELD.

CAPONS PAY

Capons are cheaper and easier raised, bring double price on the market. Caponizing is easy, and soon learned. Set prepaid with "easy to use" directions, $2.50. Capon book free, tells how. Write for it today.

G P Pilling & Son Co., Arch St., Philadelphia, Pa.

In the Heart of Michigan

Did you know that within one hundred miles of me are over three-fourths of the bee-keepers of Michigan? Are you one of them? If so you will find it to your advantage to write for my new catalog. A full line of Root's Goods at Root's Factory Prices. Hilton's double-walled hives are used more than any other in my State. It has stood the test of thirty years. . . . . I ship goods promptly. Wholesale or retail. . Cash or exchange for beeswax at all times.

George E. Hilton - - Fremont, Michigan

ITALIAN AND CAUCASIAN BEES, QUEENS and NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

One Untested Queen	$ .75
" Tested Queen	.90
" Select Tested Queen	1.10
" Breeder Queen	1.65
" Comb Nucleus (no Queen)	.80
" Untested Caucasian Queen	1.25
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Safe arrival guaranteed. For prices on larger quantities and description of each grade of Queens, send for FREE CATALOG.

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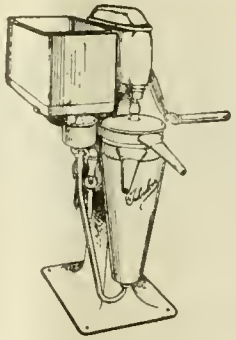
Because You Need The Money

It's your business and if you don't attend to it, who will? You cannot afford to keep cows for fun. That isn't business, and, furthermore, it isn't necessary. There is money in cow keeping if you go at it right, and besides there is more fun in going at it right than there is in staying wrong.



You need a Tubular Cream Separator because it will make money for you; because it saves labor; because it saves time; because it means all the difference between cow profits and cow losses.

Look into this matter; see what a Tubular will do for you and buy one because you need it.

How would you like our book "Business Dairying" and our catalog B. 306 both free. Write for them.

The Sharples Separator Co.

West Chester, Pa.

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ON IT'S MERITS

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STRONG DURABLE

long ago won for itself the reputation of being the Best Ready Roofing known. Realizing the value of this reputation, we have always endeavored to maintain it, not only by keeping strictly up to the original high standard, but by contantly striving to improve it in every possible way. Requires no annual painting. Samples and "Roll of Information" FREE.

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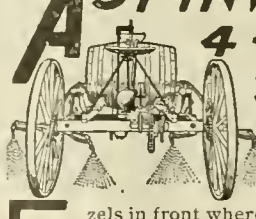
ASPINWALL 4-ROW SPRAYER



Like a mowing machine, has its working parts or spray nozzels in front where they can be seen. Don't strain your neck and eyes with a rear spray. High pressure; Brass lined pump; Ball valves; Wider range of adjustment than any other sprayer made. Booklet free.

ASPINWALL MFG. CO.,

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American Bee Journal

TENNESSEE-BRED QUEENS

All from Extra-Selected Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested.....	$ .75	$ 4 00	$ 7.50	$ .60	$3 25	$ 6 00	$ .85	$4 50	$ 8 00	$ .95	$ 5.00	$ 8 50
Select Untested	1 00	5 00	9 00	.75	4.25	8.00	1 10	5 50	9.50	1.20	6 00	10 00
Tested	1.50	8 00	15.00	1.25	6 50	12.00	1.60	8.50	15.50	1.70	9 00	16 00
Select Tested..	2 00	10 00	18.00	1.50	8.00	15 00	2.10	10.50	18.50	2.20	11.00	19 00

Straight 5-band Golden Breeders.....$10.00
Select Golden Breeders 3 00
" 3-band " 3.00
" Carniolan " 3.10

Select Caucasian Breeders .....$ 3.25
1 full colony without queen in 8-frame dovetailed hive..... ..... 6.00

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

17A4t 21Dtf JOHN M DAVIS, Spring Hill, Tenn.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....$1.50—4 inch stove
Doctor—cheapest made to use ..... 1.10—3½ "
Conqueror—right for most apiaries ..... 1.00—3 "
Large—lasts longer than any other..... .90—2½ "
Little Wonder—as its name implies ..... .65—2 "

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich.

Patented May 20, 1879. BEST ON EARTH.

Now is the Time to Order Your

BEE-SUPPLIES

AND SAVE MONEY

It will cost you only one cent for a postal-card to get our **delivered prices on Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Foundation, Smokers, Extractors, Shipping-Cases, etc.** It may mean a saving to you of many dollars. It is the natural advantage we have over others that enables us to make you the Best Price. There are no better goods than ours, and we GUARANTEE SATISFACTION or REFUND your MONEY.

We MANUFACTURE and keep in stock all standard Bee-Goods, and can ship promptly.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

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We will Buy and Sell

HONEY

of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for

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at highest market prices.

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NEW YORK, N. Y.

QUEENS Caucasians, Italians, Cyprians and Carniolans

Prices in May and June: Caucasian—one extra best select breeding Queen, $3.00; one best imported direct from Caucasus, $4.50. Golden all-over Italians and Carniolans: One best extra select breeding, $2.00; one best imported, best Italian or Carniolan Queen, $2.50. Cyprian: one extra best select breeding, $2.50; one best imported direct from Cyprus, $3.50. Prices in July, August and September, 50 cents less than in May and June. Special prices for 50 and 100 Queens. Caucasian, Italian, Cyprian, and Carniolan Queens bred the best imported breeding Queens. The addresses must be clear; payments by postal money orders. Queens guaranteed to arrive in good condition in U. S. or Canada. To Australia, Ceylon, India, etc., $1 more.

E. HAUNSCHILD, the Queen-Breeder,
20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

Honey and Beeswax

CHICAGO, July 8.—Very little honey of the yield of 1907 has come on this market. What there has in the way of white comb has sold readily at 16c per pound. There is no call for other grades at the present time. Very little demand for extracted, and a tendency not to take it at over 7c for the best grades of white. Beeswax continues to sell well at 32c. R. A. BURNETT & Co.

PHILADELPHIA, June 25.—This hot weather has come on us so suddenly that it has stopped the sale of comb honey entirely, and extracted honey has been moving very slowly the last 10 days. We quote: Extracted honey, dark, in barrels, 6 to 7c; light extracted honey, in barrels, 7 to 8c; in 60-lb. cans, according to quality and quantity. Beeswax, 30c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

TOLEDO, July 9.—Owing to the scarceness of the honey crop, and there being none in the market, there is practically no price to be made on it. However, fancy white comb honey, new crop, would bring 15c to 16c in a retail way; No. 1, 14c to 15c. Extracted, white clover, in barrels, would probably bring 6c to 6½c; amber, 5 to 5½c. Beeswax is plentiful at 26c to 28c.

THE GRIGGS BROS. & NICHOLS CO.

DENVER, July 8.—Old comb honey, or last season's crop of comb honey, has been entirely cleaned up in this market for several weeks and new crop has not arrived yet. There is no change in the situation of extracted honey, and we have a good supply to meet the local demand. Our prices are 6¾ to 7½ for light amber, and 7½ to 8½ for white, per pound. We pay from 24 to 26 cents for clean yellow beeswax delivered here.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION.

NEW YORK, July 8.—A fair demand for white comb honey, with very little supply; fancy stock selling at 15 to 16c, No. 1 at 13 to 14c, No. 2 at 12c. No demand whatsoever for dark honey at this time of the year. Good demand for nearly all

A GREAT IMPROVEMENT

Will be found in

The American Bee-Keeper for 1907

It is profusely illustrated and enlarged, and contains only articles of the most practical as well as scientific nature. A special corps of the best writers has been engaged. The editors are Harry E. Hill and Arthur C. Miller, than whom there are no more practical or experienced bee-keepers in this country. We have published the American Bee-Keeper continually and regularly since 1890.

Regular subscription price, 50 cents a year, One year to new subscribers, 35 cents; three years for $1.00.

Send for sample copy and our new illustrated price-list of **BEE-SUPPLIES OF ALL KINDS.**

Guaranteed highest quality at lowest price. Address,

THE W. T. FALCONER MFG. CO.

Dept. B. JAMESTOWN, N. Y.

[Established 25 years.]

FOR SALE

1000 sixty-pound CANS. A No. 1 condition, packed two in a case. Cases also first-class. Will sell them cheap.

Michigan White Clover Honey Co.

29 Woodbridge St., West,

24A4t DETROIT, MICH.

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

9Atf Please mention the Bee Journal.

grades of extracted honey, and we quote California white at 8 to 8½c, light amber at 7 to 7½c, amber at 6½c per pound. New crop from the South brings from 58 to 65c per gallon in barrels, according to quality; strictly fancy will bring as high as 70 to 75c per gallon. The market on the Pacific Coast seems to be unsettled, and prices fluctuate more or less. West India honey is arriving in fair quantities right along, and sells at from 58 to 62c per gallon. Beeswax is somewhat weaker, although choice stock still finds ready sale at 30 to 31c. HILDRETH & SEGELKEN.

CINCINNATI, July 8.—The market on fancy comb honey and white clover extracted is entirely exhausted. We quote light amber in barrels at 5¾c and 6c; in cans 1c per lb. higher. We are selling beeswax at 32c per lb. Market dull.

C. H. W. WEBER.

INDIANAPOLIS, July 8.—There is a good demand for fancy white comb honey and best grades of extracted honey, but at this writing the market is practically bare. Evidently a new scale of prices will be established on arrival of new crop. Beeswax is plentiful and in fair demand, selling here at $35 per 100 lbs. WALTER S. POUDER.

KANSAS CITY, June 28.—We have received a few shipments of new honey which sold on arrival at $3.50 for 24-section cases; market is almost bare of comb honey, and shipments would sell readily. We quote: No. 1 white comb, in 24-section cases, $3.50; No. 2 white and amber comb, $2.75 to $3.00; white extracted, 8c; amber, 7c. Beeswax, 25 to 30c. C. C. CLEMONS & CO.

CINCINNATI, July 3.—The demand for extracted honey does not come up to expectations, which is probably due to the lateness of the season. Quotations range about the same as published recently. Amber in barrels at 5½c to 6¾c, according to quality. Fancy white extracted honey in crates of two 60-lb. cans, at 9c. As yet, there is no new comb honey on the market. We are paying 28c, delivered here, for choice yellow beeswax free from dirt. THE FRED W. MUTH CO.

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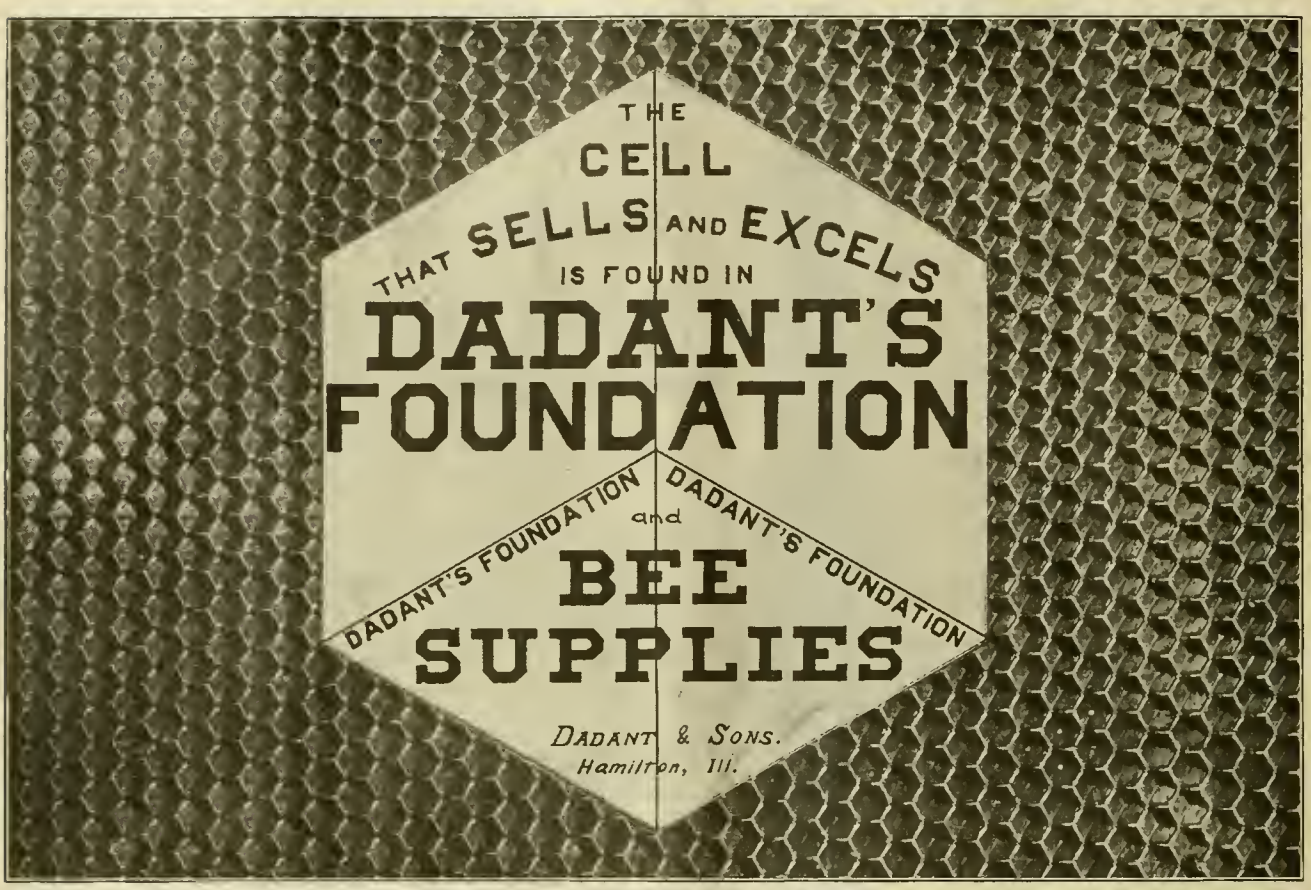

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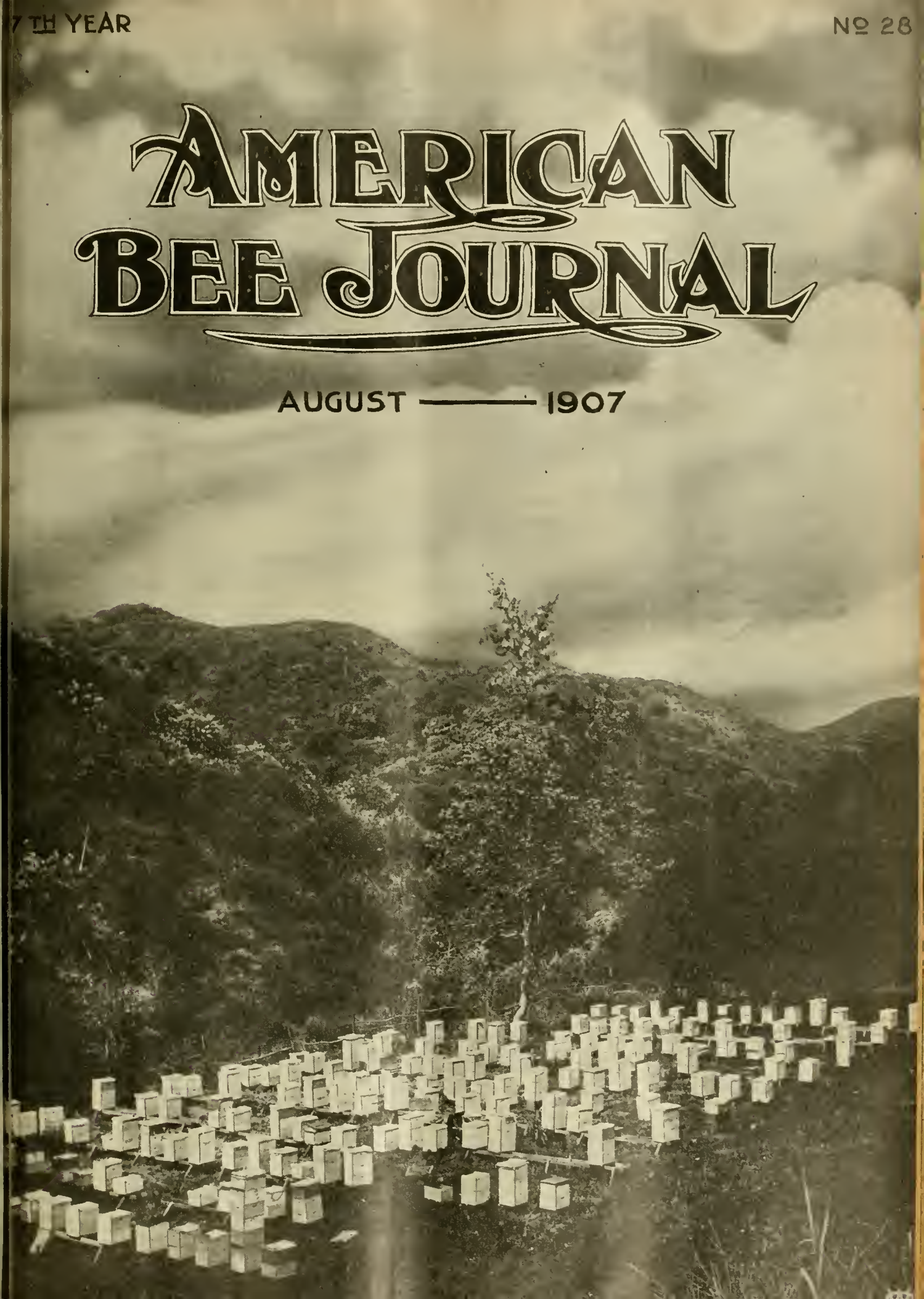
No 28

AMERICAN BEE JOURNAL

AUGUST —— 1907



American Bee Journal

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

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Queen Specialist, HONDO, TEXAS

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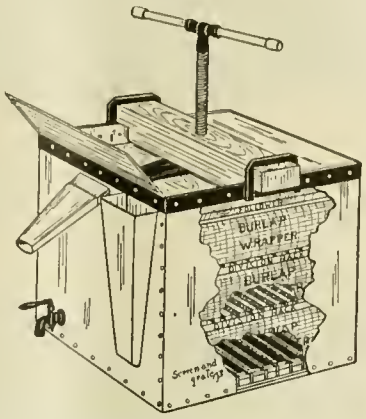

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[Mr. Pouder's Nut-Butter is fine.—Editor American Bee Journal.]

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

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Yours very truly,
(Signed) John H. Bamberger.

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GEORGE W. YORK, Editor | **CHICAGO, ILL., AUGUST, 1907** | **Vol. XLVII—No. 28**

Prices of 1907 Honey

There is now every indication that the crop of honey of 1907 is to be a very light one. Every bee-keeper who has a surplus to sell should recognize the fact of a shortage and not foolishly give honey away, that is, sell it at too low a price. There will be no need of it. Honey, evidently, is to be honey this year. And now that pure-food laws are getting in their good work, there is no valid reason why any first-class honey put on the market this fall shouldn't bring a good price. Fruit is scarce, and consequently high in price—in fact, practically all food-stuffs are going up, so why should not honey take its proper place in the market quotations?

Some think that No. 1, first-class, white extracted honey can be sold this year at 10 cents a pound at wholesale, and other kinds accordingly.

Our caution is that those who have any honey for sale this season do not be in a hurry to dispose of it, and perhaps fool away what little they have. If a fair price is not asked, it surely will not be secured. Some wholesale dealers are already quoting best white extracted honey at 9 cents a pound. If bee-keepers will but hold on to their honey a little while, it would seem that they should be able to realize a better price for it—more nearly what it is worth.

Fastening a Queen-Cell in a Hive

When a queen-cell is given to a nucleus, it is generally fastened on a central part of one of the combs. This is done, even if the cell be cut from the same comb and fastened on again, for bees are quite likely to build queen-cells on the edges of the combs, where they are kept warm enough in a strong colony, but are in danger of being chilled in a nucleus. The instruction formerly was to cut with the cell a wedge-shaped piece of the comb, then cut a like-shaped hole in the comb and insert the cell. An easier way is to lay the cell directly against the surface of the comb and fasten it there with a hive-staple. Let the cell be at one end of the staple, and press the other leg of the staple deep into the comb.

Here is still another way that can be used only with self-spacing frames: Lay one of the brood-combs on its side and lay the cell upon it. Lay upon this another comb, take hold of both together by the top-bars and set them in the hive. Of course, the cell with the adhering part of comb must be sufficiently large to be slightly pinched by the opposing sides of the 2 combs.

This last way is especially good for putting a queen-cage in a hive.

Dual Introduction of Virgin Queens

Up to the time when each young queen must have a separate domicil, the rearing of queens is a comparatively inexpensive matter. A large number of cells may be started in succession by a queenless colony, and, when fairly started, if they are placed over a colony with a laying queen, an excluder between, the work of feeding and sealing will proceed satisfactorily. The expensive part comes when each virgin insists on a separate establishment. A queen may lay when she is 8 days old, especially in a strong colony, but in a nucleus it is oftener 12 than 8, and if this time can be shortened it is important.

The plan of Editor Root, of having 2 virgins in a nucleus at the same time, practically accomplishes this shortening. Into a colony having a free virgin a caged virgin is put, in a provisioned introducing-cage, but so arranged that the bees can not get at the candy to liberate the virgin. When the free virgin becomes a laying queen, she is removed, the covering is taken from the candy so the bees can liberate the caged virgin, and at the same time another caged virgin is put in the nucleus.

Thus each time a laying queen is taken from the nucleus a fresh caged queen is put in, there being always 2 queens in the nucleus. A virgin is 5 days old, or older, before she flies out to be mated, and the economy comes in having her spend a good part of this 5 days in a cage instead of occupying the whole attention of a nucleus.

The question that can be raised in objection is whether a queen is just as well off imprisoned in a cage as when at full liberty. One would be inclined to think not; but those who have practised the method say they can see no difference occasioned by the imprisonment, and if any harm could come of it one would suppose that some one would have said so before this. Moreover, it is the custom of the bees themselves to practise this imprisoning to a certain extent. When a strong colony sends forth a prime swarm, a number of young queens mature in the cells, and if the ear be applied to the hive the evening before the second swarm is to issue, a number of young queens may be heard quahking in response to the piping of the first emerged one. All these quahking queens are held prisoners in their cells, and this imprisonment may last a considerable time, especially if bad weather occurs to delay swarming. G. M. Doolittle tells of one case in which a young queen was laying within 3 days after leaving her cell, having been kept in her cell by the workers during a spell of bad weather. It would seem no worse to imprison a virgin in a cage than in a cell. Indeed, the advantage should be on the side of the cage, which allows greatly more liberty than the cell.

On the whole, it would seem that dual introduction of virgin queens has much to commend it.

American Bee Journal

Where do the Field-Bees Deposit Their Loads?

On another page of this number will be found a communication from our good friend of "the land o' cakes," D. M. Macdonald. If he is right in his supposition that no one should have misunderstood any of his condensed statements, then all is well, and nothing more is to be said upon that subject.

He will pardon, however, a brief rejoinder with regard to the matter of honey, or nectar, being deposited in the brood-nest or brood-chamber and afterward carried up into the super.

No, Mr. Macdonald, your "impossible" was not misunderstood, but was understood just as you intended it to mean—the cells being already filled it was "impossible" to use them for storing the nectar brought in from the field. If your premise was correct, your "impossible" was a legitimate deduction. The point at issue now is whether the nectar that may be shaken out of a brood-frame at a time when bees are gathering is merely "a small percentage with unsealed honey * * * for the nurse-bees," or whether all the honey brought in by the fielders is first deposited in the brood-chamber.

As one shakes a brood-comb and notes the amount of thin honey thrown out, it hardly seems possible that it could all be needed for the immediate wants of the nurse-bees. On the other hand, it must be frankly admitted that when one takes comb after comb out of the brood-chamber, and notes how well filled they are, one hesitates to believe that there is room in them to deposit the gathering of a day when that gathering amounts to 5, 10, or more pounds. But we have it on the word of so careful an observer as G. M. Doolittle that such is the case, and if Mr. Macdonald is willing to accept him as proof on one point, why not on another?

Plainly, however, there is a contradiction between the day's gathering being deposited in the brood-chamber, and the combs being "literally filled with brood." But was not that last meant by Mr. Doolittle to be understood as a very emphatic statement rather than to be understood that every single cell in every comb was filled with brood? It is a common thing to speak of frames filled with brood, but did any one ever see a frame in which every single cell was filled with brood? Mr. Doolittle is not ignorant that many cells are occupied with pollen, and certainly such cells could not be filled with brood. Would Mr. Doolittle mean to have a thing understood that he knew to be "impossible"?

But we will not discuss the matter further at present; merely rest upon the statement of Mr. Doolittle that the field-bees deposit their loads in the brood-chamber; and leave it to each of the two gentlemen to convince the other that he is mistaken; and may the truth win.

Beet Versus Cane-Sugar

For years the British Bee Journal has insisted that cane-sugar is greatly superior to beet-sugar as bee-food, and in the season when sugar is likely to be bought by bee-keepers it is quite the common thing to find in that Journal advertisements of pure cane sugar. On this side, the matter has hardly seemed worth considering. Granulated sugar is largely from beets; it is not easy to get sugar that one can be sure is cane—indeed, practically impossible for the average bee-keeper—and, moreover, analysis shows that chemically the two sugars are precisely the same, so where's the use to bother? It may be no harm, however, to note what the British Bee Journal has to say in support of its views. On page 208 is found the following:

It is quite true that "beet-sugar" is chemically identical with cane-sugar, and in a laboratory can be produced pure; but it is most difficult to purify beet-sugar in such a manner as to get rid of all the potash salts. It is the presence of these that makes beet-sugar so liable to fermentation, and causes the general complaint among housekeepers that preserves do not keep so well as they used to before the introduction of sugar made from beet-root. Cane-sugar is free from these salts, hence its freedom from fermentation. Much of the beet-sugar is also artificially colored with aniline dyes. Referring to the complaint that cane-sugar is higher in price than beet, the difference is more than compensated for by its greater sweetening power. Chemists find that cane-sugar gives a clearer and sweeter syrup than that made from beet-root, the clearness being due to its greater purity. Beet-sugar also varies very much, and if it were chemically pure sugar it might be admissible; but in commerce it is not so, and we do not consider it fit for bee-food. There are many things *chemically identical* that we should not consider fit substitutes. For instance, sawdust, is chemically the same, both qualitatively and quantitatively, as corn-flour, but one would hardly care to have bread, however cheap, made from sawdust. Nor would we like our butcher to send us a piece of leather instead of a beef-steak, although the composition is chemically almost identical. Cane-sugar comes next to honey as a bee-food, and even were it considerably dearer than it now is, we should consider it more economical in every way for bee-keepers to use it in preference to beet sugar. We have had practical experience that bad wintering was frequently due to feeding bees with beet-sugar, and therefore can not recommend it.

After reading the foregoing, we may well ask the question whether we might not be the gainers to adopt the views of our British brethren. If there is only a little difference in the wholesomeness of the two sugars, it would be well worth while to be to no small amount of trouble, if we must feed sugar, to make sure of the better. Certainly, if there is a sufficient demand guaranteed cane-sugar can be had. The only question is whether bee-keepers demand it.

A Remarkably Late Season

After an unusually warm spell in March, the weather seemed to be in no hurry to warm up, and some report the white-honey harvest nearly a month later in opening than usual, in northern Illinois white clover not beginning to yield till the last of June.

Death of a New York Bee-Keeper

Mr. David J. West, of Middleburgh, N. Y., son of Mr. N. D. West, so well known to bee-keepers of that State, died July 15, as a result of a runaway horse that was frightened at an automobile. Mr. West was only 25 years of age, and leaves a wife and baby daughter. He was an exemplary young man, honored and beloved by all who knew him. The American Bee Journal, to which Mr. West was an occasional contributor, extends sincerest sympathy to the bereaved families.

From a Weekly to a Monthly

As we have received some letters referring to the change in the American Bee Journal from a weekly to a monthly, we thought it might be well to give a sample of each kind that have come. Here is one favoring the change:

DEAR FRIEND YORK:—I have wanted to write to you and extend my congratulations and best wishes ever since I heard of the change in the Journal. The only fault I ever found with it was that it was a "weekly," for a busy man does not want a weekly bee-paper. I think you have made a good choice in changing it to a monthly magazine form. The first copy shows up fine. But from my point of view you have made one mistake—you should have made the price 50 cents instead of 25 cents. It is well worth it, and I believe you would get just as many subscribers at that rate. I can't see why not, as 25c. is too "cheap"; but perhaps you have reasons that I have not considered. Any way, you have our support in the new regime.

HARRY LATHROP.

Bridgeport, Wis., July 20th.

Here is one from a good friend in Kansas who does not favor the change:

American Bee Journal

DEAR FRIEND YORK:—For one, I am very sorry to see that the American Bee Journal is to be a monthly instead of a weekly. I fear that it is a bad mistake. I would much rather pay $2 per year for a weekly than 25 cents for a monthly. It is too slow to get around. I have heard several complaints in regard to the change. J. J. MEASER.

Hutchinson, Kan., July 20.

We wish to thank all who have written us on this subject. But we believe that we have done wisely in making the change from a weekly to a monthly. What we want is a large list of readers, and the great majority of bee-keepers are not sufficiently interested in bee-culture to need a weekly bee-paper. It is the *majority* that we want to get on our subscription list. And at 25 cents a year for the American Bee Journal once a month, it seems to us, we ought to get them, and that in a very short time.

We hope that all our present subscribers will turn in and help us roll up a list of 50,000 readers that we want to get during the next few months. Surely, it will not be hard for many to get at least 10 subscribers each, at the very low rate of 25 cents a year. (See the liberal premiums offered on another page of this issue.)

We will be pleased to send sample copies free if our present readers will kindly send us the names and addresses of their bee-keeping friends and neighbors.

German "A B C of Bee-Culture."

The A. I. Root Co. are getting out an edition of their well-known "A B C of Bee Culture" in the German language. It is to be a complete translation of the English edition of the book, and the revision is made by Mr. F. Greiner, of Naples, N. Y. It will have about the same number of pages as the English Edition, and the price will be $2.00, postpaid. It is to be issued in September next, and will be the best work of European and American-German authorities, as Mr. E. Bondonneau, of Paris, who made the French translation, is bringing it out. It should have a large sale among German-reading bee-keepers.

A Post-Master Bee-Keeper

Hon. Eugene Secor, of Forest City, Iowa, on July 1st, entered upon a new line of work for him. It is no less than that of post-master. Mr. Secor is well known to almost all of our readers. He has often been called the poet-laureate of bee-keeping, on account of having written so many poems relating to apiculture. Referring to his own bees, in a letter dated July 13, he says:

"Bees came through the winter pretty well, but a good many were lost in the spring, the season being 2 or 3 weeks later than common, and very cold. They are doing well now, however, but I don't look for any great surplus this year, because so few colonies will be strong enough to take advantage of a generous flow, if we have one."

Mr. Secor's experience as given in the foregoing paragraph corresponds with that of almost all other bee-keepers this season. Surely, honey ought to bring a good price the coming fall and winter. Just now it does not look as if there would be a very large crop, so that those who are fortunate enough to harvest any honey should be able to realize for it all that it is worth.

The Bee-Man

Kind heart, honest hand;
Best friend in the land;
Tills well the home farm;
Thrives when the bees swarm;
Loves work; enjoys life;
Loves best the sweet wife;
Keeps, 'till his frame's dust,
Man's faith, woman's trust:
You can find none stancher,
Than the true bee-rancher;
Great hopes, little money;
Little talk, much honey;
Light heart; cheery song;
Here's luck and live long!—
Whether he's Australian,
English, Dutch, Canadian,
French, or good American—
That's the genuine bee-man.

DR. FREDERICK WEBLEY.

Santa Rosa, Calif.

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 25 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

Subscription Credits

We have been unable as yet to make on our mailing-list all the extension credits that are due those whose subscriptions were paid beyond June, 1907, at the regular $1.00 rate. Now that the American Bee Journal is published monthly at 25 cents a year, of course there are many paid-in-advance subscriptions that will be credited just four times as far ahead as was indicated by the date on the wrapper-label. But it may take us quite a little time to do this. So please be patient, and you will find that all will have our attention in due time.

Apiarian Photographs

We can use such right along. Of course we want good, clear prints. If you have an apiary that you think would look well on paper, have it photographed and send to us the result. While we may not be able to use all that come, we doubtless will be able to use most of them. Please send the picture, and on its receipt we will report whether we can use it. If we can, we will then request you to send some descriptive matter to go with it when published. We prefer larger size photographs, say 8x10 inches, if possible. However, send whatever size is most convenient.

California Bee-Ranches

One is shown on the first page this month. It belonged to E. J. Smale & Co., when the photograph was taken, and was located in Los Angeles County. It is, perhaps, as fine a specimen of a California mountain canyon bee-ranch as can be found anywhere.

California is noted for such scenes. One of her leading bee-keepers once had 600 colonies in a single apiary located in such a wild and lonesome place. But in good seasons the bees get the honey there. In 1903, the then most extensive California bee-keeper harvested a crop of 90,000 pounds of extracted, and 22,000 pounds of comb honey.

Labeling Honey for Market

Since the National Pure Food Law was passed, many dealers seem to be in a quandary as to the proper way to label food products, among them honey. Mr. N. E. France, of Platteville, Wis., wrote to the Secretary of Agriculture at Washington, D. C., in order to get a ruling on the subject, and here is the reply he received:

MR. N. E. FRANCE.—I do not see that any objection can be made to the form of seal label which you submit. In regard to the shipment of honey without label, I may say that you do not violate the law in so doing, provided it is pure honey and not something other than what it is sold for. If the honey is shipped from one state to another and the party receiving it puts his own label on it as if he were the producer, he violates the law by representing the product as having been made in a state different from that of its actual production. The shipper, however, of such honey will not be amenable unless he is a party to the fraud and benefits thereby. The law does not require a label to be placed upon food products but does require that if one is used, it must be a truthful one. Unlabeled food products are covered by Section 8, first paragraph under foods, which states that a food is misbranded "If it be an imitation of or offered for sale under the distinctive name of another article." Thus honey which is pure and unlabeled, sold as honey, is wholly within the protection of the law, but if honey be adulterated by admixture with glucose and sold as honey, then the law is offended. If honey which is produced in Wisconsin, however, is sold to a dealer in Illinois and the dealer in Illinois places upon it his own label as if it were produced in Illinois, and sells it in original packages in Illinois or repacks and ships in interstate commerce, the law is offended, because a false statement is made respecting the state in which it is produced, which is a violation of the first paragraph of Section 8 of the law. You will find the law on standards of purity of honey in Circulars 19 and 21, which I enclose.

Respectfully, JAMES WILSON,
Secretary.

American Bee Journal

In Circular No. 19, referred to by Secretary Wilson, the following definitions are given:

DEFINITION OF HONEY.

1. HONEY is the nectar and saccharine exudations of plants gathered, modified and stored in the comb by honey-bees (Apis mellifica and A. dorsata); is laevo-rotatory, contains not more than twenty-five (25) percent of water, not more than twenty-five hundredths (0.25) per cent of ash, and not more than eight (8) percent of sucrose.

2. COMB HONEY is honey contained in the cells of comb.

3. EXTRACTED HONEY is honey which has been separated from the uncrushed comb by centrifugal force or gravity.

4. STRAINED HONEY is honey removed from the crushed comb by straining or other means.

Fair Apiarian Exhibits

The season of Fairs is again here, and as usual, and also as should be more and more, there are exhibits of bees, honey, bee-supplies, etc., and in practically all cases prominent bee-keepers are selected as superintendents of the apiarian departments. Also, excellent lists of premiums are offered in most cases. We have been requested to publish some of the premiums lists, which we do here, and give after each list the name and address of the superintendent, who can be addressed for further information, if it is desired.

The first is the South Dakota State Fair, to be held Sept. 9 to 13, with this list:

	1ST.	2D.
Best 24 pounds light	$1.50	$1.00
Best 24 pounds medium	1.50	1.00
Best 24 pounds dark	1.50	1.00
Largest and best display of comb honey	5.00	3.00
Extracted honey in glass jars, tin cans, or other packages:		
Best 25 pounds light	1.50	1.00
Best 25 pounds medium	1.50	1.00
Best 25 pounds dark	1.50	1.00
Largest and best display of extracted honey	3.00	2.00
Bees and queens in one comb observatory hives not allowed to fly:		
Italian	2.00	1.00
Caucasian	2.00	1.00
Carniolan	2.00	1.00
Native or black	1.00	.50
Largest display of bees as above	3.00	2.00
Best 10 pounds wax	2.00	1.00
Best display of cakes, candies, or fruits in which honey takes the place of sugar	3.00	2.00
Best display of all the products of the apiary	5.00	3.00
Best display of honey-producing plants, pressed and mounted	2.00	1.00

R. A. MORGAN, *Supt.*

Vermillion, S. Dak.

WEST MICHIGAN STATE FAIR, AT GRAND RAPIDS, SEPT. 9 TO 13.

	1ST.	2ND.	3RD.
Display of comb honey, quality, quantity, appearance, and condition for market to be considered	$25	$15	$10
Specimen of comb honey, not less than 10 lbs., quality and condition for market to be considered	5	3	2
Display of extracted honey, quality, quantity, appearance, and condition for market to be considered	25	15	10
Specimen of extracted honey, quality and condition for market to be considered	3	2	1
Best display of extracted honey in granulated form	5	3	2
Most attractive display of beeswax, quality to be considered	5	3	2
Most attractive display of best honey-producing plants, pressed, mounted and named, not to exceed 25 varieties	5	3	2
Italian bees and queen, single-frame nucleus, in observatory hives	3	2	1
Black bees and queen, single-frame nucleus, in observatory hives	3	2	1
Carniolan bees and queen, single-frame nucleus, in observatory hives	3	2	1
Caucasian bees and queen, single-comb nucleus, in observatory hives	3	2	1
Queen-rearing nucleus, showing frame of queen-cells in observatory hive	5	3	2
Full colony in full-size observatory hive, showing different parts and appliances of hive, most attractive	3	2	1
Full colony in full-size observatory hive, showing different parts and appliances of hive, most instructive	3	2	1
Largest, best and most instructive display of nuclei of different races of bees in single-comb observatory hives	5	3	2
Largest, best, most interesting, attractive and instructive exhibition in this department, all things to be considered	15	10	5

A. G. WOODMAN, *Supt.*

Grand Rapids, Mich.

KANSAS STATE FAIR AT HUTCHINSON, KAN., SEPT. 16 TO 21.

	1ST.	2NO.	3RD.
Best case of white comb honey, not less than 24 sections	$ 5	$ 3	$ 2
Best case of amber comb honey, not less than 24 sections	5	3	2
Best and largest display in comb honey, not less than 200 pounds	15	10	5
Best frame of white comb honey	3	2	1
Best frame of amber comb honey	3	2	1
Best case of basswood white honey	3	2	1
Best case of white clover honey	3	2	1
Best samples of sweet clover honey	3	2	1
Best 12-lb. cans of white extracted honey	3	2	1
Best 12-lb. cans of amber extracted honey	3	2	1
Best and largest display in extracting honey, not less than 200 lbs.	10	5	2
Best 5 lbs. of yellow beeswax	5	3	2
Best 1-frame queen and bees in observation hive	5	3	2
Best 1-frame 2-story queen and bees in observation hive	5	3	2
Best Italian bees (dark) and queen in cage	5	3	2
Best Italian bees (golden) and queen in cage	5	3	2
Largest display of Italian bees and queen	10	5	3
Best designs in comb honey	10	5	3
Largest and best display in designs of beeswax	5	3	2
Best home-made hive for Kansas	5	3	2
Best display in bee-keepers' supplies	5	3	2

J. J. MEASER, *Supt.*

Hutchinson, Kan.

WORCESTER CO., MASS., BEE-SHOW.

In Horticultural Hall, Worcester, Sept. 13 and 14, 1907.

1. The exhibition is strictly free to all. There are no entry fees. There are no charges for space. The exhibition is free to the public.

2. The purpose of the exhibition is threefold: To bring together for display and competition the products of bee-keepers. To bring together for competition and display the products of manufacturers, publishers, and tradesmen. To educate the public.

3. A first, second, and third prize (consisting of a ribbon) will be granted in each scheduled exhibition. An award of merit will be granted all worthy displays by manufacturers, tradesmen and others whose exhibit is not provided for by numbers 1 to 15 of the schedule.

4. The Hall is central, large, well-lighted, and fully equipped with tables, covers, dishes, elevator, etc. For special conveniences, communicate with the Secretary, or Mr. A. A. Hixon, Horticultural Hall, Worcester, Mass. Exhibits may be sent so as to reach the Hall any time the week of Sept. 8, and will be taken care of till the exhibition.

SCHEDULE.

HONEY.—In numbers 1 to 5, there will be two classes—one for those living in Massachusetts, and one for those outside of Massachusetts.

1. For the best 5 pounds of comb honey in section-boxes.

2. For the best case of comb honey packed for market. Neatness of package will be considered.

3. For the best 2 frames of comb honey for extracting. Weight, color, quality, as well as general appearance will govern.

4. For the best display of chunk honey.

5. For the best display of comb honey in general. This is open to the taste of the exhibitor.

6. Extracted honey. For the best 5 pounds of extracted honey in glass. Color, quality, and general neatness will govern.

7. For the most attractive display of extracted honey.

8. VINEGAR.—For the best display of vinegar made from honey. Sharpness and clearness will govern.

9. BEESWAX.—For the best pound of beeswax. Softness and color will govern.

10. For the best display of beeswax.

BEES.—All bees must have been reared by the exhibitor. Nos. 11 to 15 are to appear in single-frame nuclei. Each nucleus must contain a queen. Nos. 15 to 17 may be shown as exhibitor desires.

11. For the best Italians.

12. For the best black or German bees.

13. For the best Carniolan bees.

14. Varieties not scheduled.

15. For the best display of bees.

16. For the best display of queen-bees ready for shipment.

17. For the best display of a queen-rearing outfit, showing cells in different stages of development.

18. General Display. For the best display of bees, honey, wax, bee-furniture, etc. Exhibitor given full freedom. Products and bees must be of his own production. Please write to Secretary that space may be reserved.

19. COOKERY.—For the best cake made with honey. Recipe attached.

20. For the best cookies made with honey.

21. For the best display of cake, cookies, and confectionery made with honey.

22. PHOTOGRAPHY.—Photograph of a swarm of bees.

23. Best photograph of a New England apiary.

Displays not scheduled above are solicited. Meritorious exhibits will be awarded a diploma. Manufacturers, tradesmen, and publishers, are urged to make a display. Free space will be awarded each applicant. Points of merit are neatness, perfection of workmanship, as well as instructiveness and general effectiveness of display.

Communications may be addressed either to the secretary or to A. A. Hixon, Horticultural Hall, Worcester, Mass.

There will be lectures by people prominent in the bee-world, on both days of the Fair.

Clark University, A. H. ESTABROOK,
Worcester, Mass. *Secretary.*

Getting New Subscriptions

How about getting new readers for the American Bee Journal? It seems to us that at only 25 cents a year every bee-keeper in the land, not now a subscriber to the American Bee Journal, would be glad to hand his or her subscription to any one who asks for it. There is nothing published in America to-day in the line of bee-keeping that compares with this Journal at the price. During the year it will contain everything necessary to make a success of bee-keeping, aside from that already in bee-books. See the many premiums offered on another page for getting and sending in new subscriptions. You can earn some of them with little effort, if you try.

American Bee Journal

"Forty Years Among the Bees."

The following letter has been received:

EDITOR YORK:—Dr. Miller says in "Starting in Bee-Keeping," page 523, that if you get only one book on bee-keeping you can not go amiss to get, etc.; then names other books than "Forty Years Among the Bees," as if they are better for the amateur bee-keeper. I believe the Doctor does himself and his own book an injustice in that article, as I own several of those same books and I value his book as highly as any of the others; and when I want to look up something right quick, I always look at his book first, and I believe I get just as much information as is wanted. F. P. DAUM.

This correspondent is not the only one who has thus expressed himself, and while for him the book in question may be as valuable as any other—even if indeed it should be more valuable—Dr. Miller insists that for a *first* book the beginner should have one of a more general character, his book being rather supplementary, in his opinion. It is probably a fact, however, that any bee-keeper who already possesses one or more of the text-books would find it money wisely invested to procure a copy of Dr. Miller's book. Some new kink found therein, or some old truth presented in a new light, may be worth many times the cost of the book. This book, which is cloth-bound, and has 344 pages, is mailed from the office of the American Bee Journal for $1.00; or with the Bee Journal one year—both for $1.15.

Opportunities of Today

This is the name of a new, high-class monthly magazine built upon entirely new and original lines, which makes its initial bow to the public with the September number. As its name implies, the publication will deal with bringing to the notice of opportunity seekers, the many and various chances for wealth and home-making that are opening throughout all the United States.

The home of the new magazine is the entire 17th floor of the Majestic Building, 73 and 75 Monroe St., Chicago, where Mr. R. L. Bernier, the editor and publisher, has surrounded himself with a thoroughly experienced and competent staff of assistants. Advance sheets of the publication indicate that no expense will be spared to make it one of the most striking and elaborate pieces of work of its kind ever published in this country. The first issue will represent an expenditure of very nearly $30,000.

Agriculturists will be particularly interested in the articles which will appear from time to time, dealing with the advanced ideas of farming, the development of farm and stock lands in the various parts of the continent, and the irrigation and reclamation of lands, and in fact everything pertaining to the productions of the country.

Bee-Keeping in New Zealand

We have received the following from Mr. Burton N. Gates concerning the progress of bee-culture in New Zealand:

RUAKURA STATE APIARY, NEW ZEALAND.

The Report of the Department of Agriculture of New Zealand for 1906 shows the vitality of bee-keeping in that country since bees were first landed in New Zealand; now she has her expert in the national department of agriculture, has an experimental apiary, with an assistant, Miss L. Livesay, in charge. All this, and more, in a few years.

The State Apiary, at Ruakura, Auckland, is Mr. Hopkin's—Apiarist of New Zealand—latest move. In September, 1905, he started with 32 colonies on the farm, "most of which were weak," he says. The following season was backward, which, notwithstanding, "we increased, by dividing, to 46, 40 of which have been Italianized; and we secured about half a ton of honey." This shows that some one knows how. The station is soon to have its honey-house, plans for which are included in the report.

"An Apiaries Bill" has been introduced in order to check the spread of brood-diseases, which exist from one end of New Zealand to the other, says Mr. Hopkins, and must be eradicated if bee-keeping shall progress. To quote again: "One prominent bee-keeper, who now owns a hundred colonies, says that until the Bill is passed, he will not keep more than a hundred colonies; but when the Bill becomes a law, he is prepared to increase to 5,000."

New Zealand surely has the natural resources; she seemingly has the right sort of men to harness them. She has made a vigorous start; there is a good example in her methods for the American bee-man. Just now, in various parts of the United States, we are running hard up against the disease problems. The sooner they are attacked with some such progressive spirit, as that of New Zealand, the better and the easier they will be controlled. This comes home to many of us, and has the feeling of "at-homeness to the New Zealander." Keep your eyes open to progress. BURTON N. GATES.

Worcester, Mass.

Conducted by EMMA M. WILSON, Marengo, Ill.

Hybrid Bees vs. Italians

DEAR MISS WILSON:—Is there another sister who can give us a little of her experience with Italian bees? In the American Bee Journal everybody and everything is all Italian bees. My experience with them for the past 3 seasons has been that I never want any more—in my locality, at least.

To begin with, 3 years ago, I had a queenless colony. I sent for a selected tested Italian queen from a well-known advertiser in the American Bee Journal. I was only a beginner at the time, and wanted to go slowly and surely. I paid $2.00 for the queen and successfully introduced her. By the end of the season she had reared an exceptionally large and fine colony. But only about 2 sections of surplus honey, and they were all built crooked, and not at all nice. And they were the ugliest colony of bees you ever saw. I was very much surprised at this, as in all my reading in regard to Italians, every article pronounced them much more gentle than black or hybrid bees. I laid this fact to their being queenless for about 2 weeks before I found it out. I thought to myself that next season they will be all right.

American Bee Journal

The next season they worked up the most quickly of any of my 7 colonies. But they were uglier than ever, and seemed possessed to sting. I paid no attention to that and put on the supers, and cared for them just the same as I did for my hybrids. In June of that year they cast a mammoth swarm. The swarm would fill a 10-quart pail full to overflowing. And they clustered so conveniently close and low, on a young cherry tree that I put the hive under the tree and shook them in. Then I had 2 fine, large, strong colonies of Italian bees so cross that I never allowed any one to go near the hives unless with a bee-hat, etc. I put on supers with bait-sections, and not one ounce of surplus did they gather that whole season—either colony. But the brood-frames became so full of honey that there was no room for the queen. So I took one or 2 out at different times and exchanged with other frames. They went into winter quarters last fall in fine shape. In fact, all my bees were in the best shape last fall of any year I have had bees. This spring they seemed to be all right when the first warm weather came in March. Then we had it very cold, and much snow, away down to the first of June. During the time from March to June I lost 3 swarms. One swarm was from one of the strong Italian colonies. They were the first bees I ever lost.

One June 29 of this year I had my first swarm. It came from the remaining Italian colony. It was a fair-sized swarm, and settled in a bad place. They settled on the trunk of a pear-tree about 3 inches in diameter. Such a time as I had to get them! I finally got most of them into the hive, and then, to my astonishment, they came out and settled right back on the pear-tree. I got them in the hive a second time, and then they came out again. I smoked the tree well and made the air around the tree full of smoke, and they went back to the mother colony. I thought perhaps the queen was lost or injured, and that was why they went back.

Several days after this there was a colony on a stump one morning at 5 a. m. They were Italians, and must have come out the day before, unknown to us. They were in nearly as bad a place as before. But I got them into the hive, and this time they stayed. In 4 or 5 days I looked in to see what they were doing, and found they had gathered a lot of honey, but not a sign of an egg. So I found a fine queen-cell in my best hybrid colony and gave them that. Then I looked into the other Italian colony and found they were queenless. So I brushed all the bees in with the colony where I put the queen-cell. This was several days ago. I have not opened the hive and taken out frames since, as I was afraid I might injure the fine queen-cell, nearly ready to hatch.

Can any one tell me why I had such a time? and such poor success with these Italian bees, when I worked them, and did the same for them, as I did for my hybrid with good success? Was it my fault, or the strain of bees, or just that I happened to get a cranky-tempered queen?

I sent for a cheap Italian queen early this spring, and, after successfully introducing her, I found after she began to lay that she laid 2, 3, and 4 eggs in one cell. In a few days I looked again and she was gone. Whether she was lost, or died, I could not find out. So you see I do not feel like trying any more Italians.

My hybrids have done pretty well, considering that I was a beginner 4 seasons ago, and had everything to learn, and with 4 bad springs, and 3 poor seasons for honey. They are also much more easily handled, and they worked when the Italians loafed, and I could not get them to work in the supers, to save me, no matter what I did. I gave them extracting supers, and then when they would not work in them I gave them comb-honey supers.

I do not find any advertisements in the Bee Journal for hybrid queens. How am I to get one unless I rear it? This I do not care to do, as my time is not my own long enough to rear queens and produce honey, too. I work every day and can not spend any more time than I have to, to study and take care of my bees for honey.

My hybrid bees are doing well now. They have one super full of honey, and the second one started. They seemed to get to work and build up fast as soon as the weather was at all warm enough for them.

I, for one, must express myself on changing the American Bee Journal from a weekly paper to a monthly paper. I like it very much better, as I could hardly read one paper thoroughly before the next one was here. I also felt I could not miss a paper, and so when they come once a month I can read them slowly and digest it all before the next paper comes.

(Miss) Elsie A. Cutter.

Grand Rapids, Mich., July 13.

Yes, here is one sister who will be glad to give her experience, and speak a good word for hybrids. For years we have been rearing queens from our best honey-gatherers without regard to color, but giving preference to those showing little incliation to swarm, consequently our bees are mostly hybrids, although we have a number of colonies that might pass for pure Italians. We have some colonies that are undeniably cross and that makes it seem as if they were all cross, as 3 or 4 cross colonies will furnish enough cross bees to make a whole apiary appear cross. But we have a good many colonies that are just as gentle as pure Italians, and our bees are certainly hustlers.

I think Dr. Miller has slandered our bees by calling them little demons to sting. Some of them are, I will admit; but not all. Give me the hybrids, every time. I think that your experience is rather exceptional in that your Italians were cross. My experience, so far, with extra-yellow bees, as a rule, is that they are beautiful, gentle, and, like yours, rear rousing colonies, but don't compare with the hybrids as honey-gatherers. I'll take a few stings, thank you, if my bees will hustle. I have no use for handsome loafers.

As to getting hybrid queens, although no one advertises them, they are, by no means, scarce, and if you ask for them you will no doubt get them from almost any dealer.

Some Sounds of the Bee

The following, written by Miss Mary Ritchie, science mistress at a college in South Africa, is taken from the British Bee Journal:

"To distinguish all the sounds of the bees would require a sense of hearing keener than that possessed by human ears, but even the dullest ear, after long listening, becomes familiar with many bee-notes, and finds meaning in what to the novice is nothing but a bewildering confusion of sound.

"In practical bee-keeping there is nothing the beginner will find of greater service than to learn to interpret these various sounds from the every-day happy hum of the bees in the flowers, varying as it does in intensity and eagerness, but expressive always of satisfaction and delight, to the strange peep-peep of a princess in her, as yet, unopened cell.

"When the weather is warm and honey plentiful, each bee leaves the hive with a flourish, 'Whizz, I am off!' exclamation; or is it a hymn of gratitude for a new day and its sunshine?

"The noonday play-spell is a living song of gladness—an ariel dance in which the young bees join and learn the joys of flight—a thorough ventilation and refreshment of the hive, but often a source of consternation and alarm to the beginner in bee-keeping, for he is sure that in all this uproar his bees are swarming or robbing or doing something dreadful, until he discovers it is only play and that each hive repeats this performance at the same time every day. To the uninitiated the noise is suggestive of swarming, and he watches with some concern until the bees have gone back and the usual quiet is restored.

"One of the most interesting sounds is the 'call of the queen,' or the "call of the home'—the sound that when a swarm is being hived leads them up the entrance in such unerring lines.

"All these are sounds that one is glad to hear, but there are unpleasant sounds as well—the sound of the robber; the high, angry note of an enraged bee; the bee that has a grudge against you and is determined instantly to pay it off. A bee 'calls out' when it is being captured or crushed, and a queen when she is frightened. Bees annoyed by ants call in distress and spit at their tiny tormentors, like defiant kittens. The wail of a queenless colony is easily known, and utterly sad, though most pathetic and pitiful of all is the sound of bees that have lost themselves in the rain or darkness."

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"'Tis Sixty Years Ago"—Apiarian Progress

BY D. M. MACDONALD.

The whirligig of time works many changes. Sixty years ago Americans could not boast a single volume on bee-keeping. What small essays had appeared "gave little or no information of practical utility." These small works were "simple compilations, serviley following through truth and fallacy. English and Continental writers." Miner's work, 1849, claims to be even ahead of the most popular European treatise. If so, we can safely base on it some interesting comparisons, showing the difference between apiculture now and then.

What would, for instance, some of your most advanced queen-breeders say to the following bold assertion as to what makes the magic change which produces a queen: "It is not in the power of man ever to go beyond a simple *conjecture* on this point?" He speaks of "*large* apiaries, say of 15 or 20 hives." What a contrast to those hundreds now numbering a thousand up. Of even this limited number the best our author can say is that "half of the hives in existence at the present time are not in that condition that nature intended a family of bees to be in."

On the then vexed question of drones American knowledge was quite at fault. "What these drones are thus allowed to live for, is a question that will never be answered." But worse ignorance is displayed when the question of egg-laying is considered. "In May the queen deposits from 100 to 200 eggs a day." And she produces only 25,000 workers in a season; counting her own produce and that of any swarm, they will not even total up to more than 40,000. These assertions are marvelous to our modern minds.

"It is *probable* that propolis is an elaborated substance, and here the question must forever rest. Where the bees obtain it, or how they obtain it, must be a secret not for man to unfold." He falls foul of Huber for making the assertion that combs are fixed up with propolis, and maintains that his own contrary opinion "can not be controverted by all the apiarians of Europe."

That no other substance was ever brought into a hive but honey and pollen, is his firm opinion, after close observation.

"Where," he exclaims, "are the rules for the practical management of bees?" and echo answers, "Where?" Yet he instances Weeks, Thacher, and Townly as American writers, and Bagster, Bevan and Huish as English writers, but only to declare that on reading them "you will find nothing to satisfy—nothing to fill the void." "A greater cloud of darkness hangs over the management of bees than over any other branch of rural economy." If I might interject an aside here I would give Saul's place in the Israelitish women's song to Mr. Miner's work, while I would assign David's to any one of the three writers he names.

On the question of hives this writer has ideas, of a kind. "We stand in the same position we did a hundred years ago relative to this important question." His own ideal was a simple box 12 inches by 12 inches. Large hives were an abomination to him, and for the following original reason: "When a family of bees have *enough* laborers, more are worse than useless, and they rather retard than advance the labors of the hive."

He is severe on "patent" hives, but rather takes the edge off his railing by puffing several of his own. Hives even about 14 inches by 15 inches he considers to be "entirely at variance with the natural requirements of the bee." No wonder swarms were a result of his management, and he calculates that one colony may increase the 10th year to 512 families!

"The size of the hive, sir, is *everything*," and so he proceeds to cut up all his layer hives to his foot-square ideal size, with the bees in them! Remember, they had no frames, not even bars. Indeed, he utterly condemns Dr. Bevan's hive chiefly because of its bars. He had cross-sticks, though, fixed similarly to what they used to be in old straw skeps, which last Miner thought worthy of being used only "in a state of abject poverty." Yet "log-gums" are good enough for him to recommend, while, strange to say, "of all the styles of hives used in England and on the continent I can find none to recommend." Patriotism, eh?

He trots out a "Bee-House," artistic no doubt, but scarcely practicable for common use, and claims it is the first of its kind laid before the public, whereas I could produce as fine, and 200 years older, the work of Winters, whose "exploded theories have been weighed in the balance and found wanting," according to the views of this "modern" bee-keeper.

Basswood, maple, and white clover are names of 3 of the staple sources of supply for nectar, and where all 3 are to be found together "is the apiarian's true El Dorado." Red clover he sets down as "perfectly useless."

Tobacco moistened and rubbed on the part stung he considers "acts like a charm." He rubbed honey inside his hive when taking a swarm, and amongst other articles indispensable when hiving was a *blanket*—the only time I think I have ever known this "implement" named as part of a bee-man's paraphernalia.

Fifteen thousand bees he considered a "strong colony," and 40 pounds a decent surplus. "Very large apiaries were those where from 25 to 100 colonies existed." The practise of "burying bees or immuring them in cellars" he considers all wrong.

Apparently the more modern bee-man's *bete noir*—foul brood—was unknown in 1849, for it is not even named. "If famine is kept from the door, all diseases will vanish from our apiaries," is his final conclusion.

Many points in this book might be named to be contradicted, but many more showing good sound sense, and the practical experience of a long series of years the author boasts he spent among his bees, are even more worthy of reproduction; but the chief aim of my few short extracts and comments is to show the great strides bee-keeping has made during the past 60 years.

Banff, Scotland.

Transferring Bees from Box-Hives

BY G. M. DOOLITTLE.

A subscriber to the American Bee Journal wishes me to give an article on the old method of transferring bees from box-hives into movable-frame hives. As such transferring was exploited last summer at a bee-meeting where there were more than one thousand present, it will hardly do to call such transferring an "old" method, but one right in vogue at the present time in our apicultural knowledge. At this meeting strings were used to keep the combs in the frames after transferring, but I think 3 or 4 holes through each piece to the frame in which wire-nails are to be slipped, is much the better plan.

There are only two really favorable times for transferring, although it can be done at any time by using care. The first is during fruit or apple bloom, and the second is 21 days after the first or prime swarm. If done during fruit-bloom, there will be little honey in the combs, and not much brood will be near the side of the box-hives, or gums, so there will be little loss from either honey or brood, while, as a rule, enough nectar will be coming in from the blossoms to prevent robbing, as well as to enable the bees to repair their combs rapidly, which must necessarily be mutilated more or less. If done 21 days after swarming, there will be no brood in the hives except a little drone-brood or a few eggs or larvæ from the newly-laying queen, so there will be no loss of brood from cutting, as all of the bees from the eggs laid by the old queen will now have emerged, while the young queen will have just begun laying.

Besides having the bars to the frames all bored, with the wire-nails ready, a board about 2 feet square will be

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necessary, and a barrel or box of suitable height for the operator to place the board upon. On one side of the board should be tacked 3 or 4 thicknesses of cloth so the brood and combs will not be injured by being placed upon it.

Having these things all in readiness, place the whole on a wheelbarrow, together with a lighted smoker and a long-bladed knife, when you will proceed to the colony you wish to transfer and blow a few puffs of smoke in at the entrance to alarm the bees, so they will not rush out to sting you, when the box-hive is to be turned bottom-side up, and the frame hive placed on the stand the box-hive had just occupied.

Now blow a little more smoke over the exposed bottoms of the combs, and place the cap to the hive, or any box, over the bottom of the hive, fixing it so that one side or edge of the box comes in contact with some one side of the hive, so that the bees can crawl up into this cap or box.

Now, if you are to work further, as was done before the one thousand alluded to above, you will make sure that the joint between the box and the old box hive is bee-tight, by winding an old sheet or cloth around this joint, when you will proceed to take up sticks of stove-wood and pound on the sides of the hive for 10 to 15 minutes, in order that the bees may be "drummed" out of the hive up into the box from which they are to be hived upon the transferred combs at the close of the operation.

But allow me to say that such tight joint is entirely unnecessary, and the 10 or 15 minutes pounding on the hive is just so much time entirely wasted.

Having blown the smoke over the bottoms of the combs and the box set above, proceed to the splitting apart of the old hive preparatory to getting the combs out. Select the side of the hive to which the combs run parallel, if possible, and proceed to pry off the side, using a cold-chisel to cut the nails, if necessary. If there are cross-sticks through the center of the hive, these must be cut off with a saw or otherwise. By this time the bees will all be off the combs next where you are working, when the first one is to be removed by cutting with the long knife next the hive wherever it is attached.

Now lay this comb on the board you have made ready for its reception, when one of the frames is placed on top of the comb, and the comb marked by running a knife just inside of the frame all the way around. Now take the frame off and cut the comb a hair larger than the marks so that it will fit snugly in the frame when it is placed therein. Next, press the frame over the comb until it nicely fills the frame, when the wire-nails are to be pushed through the holes into the comb, so as to hold it in place in the frame when hung in the hive. To take from the board, raise board and all until the frame stands in the position it will assume when it hangs in the hive, for by thus doing there will be no danger of the comb falling out in the lifting, as there would be were you to attempt to pick it up as it lay flat upon the cloth-lined board.

Now place this transferred comb in the hive, when the bees which have returned from the fields will at once enter the hive and take possession of it, licking up all drip, beginning their work of repairs, etc. Proceed to cut out the rest of the combs and fit them in the frames in the same way until all are used, and set in the new hive, always placing them in the new hive in the same relative position which they occupied in the old, as nearly as possible to do; otherwise some of the brood may be lost, and the bees work to a disadvantage.

If drone-comb to any amount is found, it is well to leave the most of it out. If many pieces of nice worker-comb are made by the combs cutting to disadvantage, they can be fitted into frames and fine wire wound around to hold them in place. If this is done, the hive must be opened in a few days, as soon as the bees get the combs securely fastened and the wire removed. Otherwise the hive needs no opening after the operation to remove anything, as the wire-nails will do no harm if they always remain in the frames and combs just where you left them when pushing them through the frames into the comb.

As soon as all the combs are in, close the new hive, and hive into it the bees which are in the box, the same as any swarm would be hived, when the job is done.

If a scarcity of honey exists at the time of transferring, so that robbing is liable to occur, a bee-tent to set over the hive and operator is a good thing.

Borodino, N. Y.

Parcels Post and Technical High Schools

BY PROF. A. J. COOK.

There are very few improvements that have come with such benefit to a large class of our most deserving citizens as the Free Rural Delivery. Said one of our brightest farmers to me the other day, "Greatly as I prize the telephone, and much that it gives to us of comfort and time-saving, yet it is no comparison at all to the rural delivery as an aid and convenience to us farmers." He added, "But we might get vastly more, and at an actual saving to the country, could we have a cheap rate on parcels up to 25 pounds. This is sure to come, as we need it, and deserve to have it, and could get it in a very short time if we would all pitch in and demand it."

No doubt my friend is right. We are behind all the peoples of Europe, and even Mexico is ahead of us. This all comes because the express companies have their grip upon us, and wish to grow rich at the expense of the people. The railroads stayed off the Panama canal for years, greatly to the Nation's hurt, and now the express companies are playing the same shabby game.

We now can send 4 pounds in a single parcel, and must pay 16 cents per pound to do this, whereas we should be able to send any weight, and at never more than 5 cents per pound.

The salary of the carriers has been increased, and is surely none too much. I believe that we do this work at an annual loss of about $30,000,000. It is certain that with a parcels post, and no limit to the weight, the whole thing could easily be made a source of profit, with no harm to any one except the men who are at the head of the express companies, and they have fatted quite long enough at the expense of the people.

The loss to the people in the rural districts, from not having cheap rates on packages with no limit to weight, is said to be $100,000,000 a year, and, with such a system, the Government would have a fine profit instead of a deficit.

A cabinet member told me the other day that no one could be more heartily in favor of cheap parcels post than was he; and when asked if the President was in favor of it, he replied, "Of course, he favors anything that helps the people; and what would be of more benefit than a parcels post, such as they have in all parts of Germany and most of the other countries of Europe?" And is not that emphatically true?

The National Grange is also working with all its great influence to secure action by Congress, that will give us this greatly-needed postal improvement. A writer in the last New York Outlook, who seems to have given this subject much study and attention, says that with a rightly-managed equipment, all mail could be sent for one cent a pound with no weight-limit except in case of letters, and be self-supporting. Even if it did cost more than was secured from selling stamps, for a time, it would be a wise outlay, as nothing could be more of an educating power than this would be.

I believe that nothing could be more serviceable to our people than this, and in the Pacific States, so wide from the East, it would come with added blessing. We ought all to urge it on all occasions, to write for the papers in its behalf, to get others to do so, and fairly to flood our congressmen with petitions in favor of a parcels post, as liberal and well-managed as the best in the world at the present time. It is bound to come soon, and it will be our fault if it is not forthcoming *very* soon.

Technical High Schools.

Congressman Davis of Minnesota has a bill before Congress which should interest all of us. It promises as much for our people as has come from the Morrill Bill which passed in 1862, and which by donating lands to the several States secured the Agricultural Colleges, that have raised Agriculture in our country to a a degree that is hard to appreciate.

This Bill has the hearty support of the Secretary and Assistant Secretary of Agriculture, the Master of the National Grange, and will very likely pass at the very next session of Congress. It surely will if we all do our part to urge its merits and importance upon Congress.

The Act proposes to appropriate to each State, from the funds of the Gov-

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ernment, ten cents for every citizen—man, woman and child—as shown by the last census. Half of this goes to the country and half to the city, and is to be expended to teach only Agriculture in the country high schools, Mechanics in the city schools, and Domestic Science in both. Thus we will give to our boys and girls just such instruction as they will need as they engage in the sterner duties of life. This money is not to pay for buildings, nor for instruction in other lines, but is to be used wholly for the purpose of technical instruction.

This is not a new plan, but has been tried in four States, and with most gratifying success. Georgia, Alabama, Nebraska and Minnesota have all established these Agricultural High Schools, and although they were started in Georgia wholly as a private enterprise, they are now taken over by the State and are to be found in every county of the State. We have one such school in California, and it is doing good work, and will make it easy to multiply such institutions.

These schools have been so well received where they have been started, that it will not be difficult to get this Bill passed almost unanimously, by the coming Congress, and we should all do all we can to help in the matter.

This plan carried out promises much in many ways: It will make more efficient farmers, more intelligent laborers; will give education a more practical tone, without lessening its disciplinary value, and will tend to swell the already large and rapidly-growing attendance at our agricultural colleges. The business of agriculture will be elevated, as more intelligence is brought into it, and the call for trained men in these Agricultural High Schools, will bring a demand for more knowledge and research in these directions, which must be worth much to our people.

It is also proposed to unite with each of these high schools a research station, where the pupils will be trained in actual investigation. This will require a trained man to lead in the work, and will surely be of rich service to the pupils, and to the whole country.

The whole trend of education at the present time is toward technical studies, and the above plan will surely fill a felt need. I hope that this measure will meet as much approval as will that of the "Parcels Post."

Columbus, Ohio.

A Visit to a Nebraska Bee-Keeper

BY C. P. DADANT.

Wife and I have never traveled much together. We have always been too busy. In our young days it was out of the question to take a wedding trip, for we could not afford it. But during the present season we concluded to take a trip out West. The bee-business was very dull—all that the bees needed in the early part of June was feed. No honey, but little work, and a very limited sale of comb foundation! Besides, our young people are all able-bodied and fully suited to the requirements of the business. So we could be foot-loose for the first time in our lives during the month of flowers, and yet not feel that we were neglecting anything that needed attention.

The morning of June 13 found us at Grand Island, Nebr. Mr. Wm. Stolley, one of the oldest settlers of that part of the country, has been a good friend of mine for 20 years or more, but we had never met, although we had often exchanged views and had found that our political, social, religious and apiarian ideas were very similar.

On our arrival at the hotel in Grand Island, we telephoned Mr. Stolley, who was waiting for this signal, to come after us. He was soon on hand with his carriage, and in a few minutes we were riding towards his home, and chatting happily. We were promised a hearty reception from the ladies, and we certainly got it, for there are no more congenial persons than Mrs. Stolley and her two daughters.

WILLIAM STOLLEY.

The road to the Stolley home is shaded most of the way by forest trees, which Mr. Stolley told us had been nearly all furnished by himself. Before arriving at his home he drove through his grove—forest, about 50 years old, planted and cared for by him. It contains between 40 and 50 acres, and is cut by several lanes. Mr. Stolley takes great pride in his grove, and the avenues through it are as well cared for as the drives of a city park. Native and foreign trees are growing in this timber, and we saw a magnificent German oak-tree, also a number of foreign basswoods.

The apiary is situated on the south edge of the grove, shaded by maples, elms, etc., and is in a large shed in the shape of a half moon.

Our host is an amateur in bee-culture. He has at present only about 45 colonies, and he aims to keep down increase. His method was new to me. It consists in removing all the brood from the colony, or colonies, that try to swarm, placing the brood in a hive-body just above the old colony, and from time to time returning the young bees to the parent colony. This method seems to give good results with the large hives, but I would not trust it with small hives, for I saw an example of failure right there. The hives used by Mr. Stolley are large American 14-frame hives, and in those the method succeeds, but he has also a few Heddon hives. One of the colonies in those hives had swarmed two days before, and its brood had been removed as mentioned. On the day of our visit it swarmed again, and upon opening it we found that there were only a few eggs, but several of these were in queen-cells which had been hurriedly built by the bees. The colony was so intent upon swarming that there were perhaps 50 queen-cells started, in most cases only a rudiment, but they had evidently not given up their intentions, for so small a matter as the loss of their brood.

Another interesting thing I found was the evidence of the quest of a home by what has ordinarily been called "scouts," and of which some authors are inclined to deny the existence. Mr. Stolley has, at the top of his shed-apiary, four decoy hives, placed in full view, and containing combs already built and in good condition. He often harvests swarms, which enter those hives of their own

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accord. On the second morning of our visit we noticed a number of bees busy at one of the decoy hives, and Mr. Stolley asserted that they must be scouts, getting ready to swarm into this hive. Two hours later the issuing of a natural swarm confirmed his assertion. But the swarm was hived and the scouts abandoned the decoy hive at once. This shows conclusively what I had already decided in my own mind from some ulterior observations; that when a colony is about to swarm, some of the bees, probably among the most active and most experienced, start out early in search of a home and begin to clean it up at once, while some of their number direct the swarm to this selected home. But the swarm generally alights first on a branch or a bush, in order to get together. This little indication of the great intellect of the bees was very interesting to me.

Our host is no longer in active business, his farm is rented, and he and his son (the only one of his sons who is at home) are both busy taking care of their surroundings, and making home comfortable. Some of the nicest nooks and corners are to be found about that apiary, that are in existence anywhere.

Little grass plots, carefully cut with the lawn-mower are discovered here and there, surrounded with beds of flowers and a few fruit-trees. To any one who has visited the naked plains of the West, it is a charming thing to find such delightful spots produced by the careful hand of progressive men.

Mr. Stolley is a lover of Nature, and it is no wonder that he loves the bees. Two or three easy chairs are kept in one end of the bee-shed, and in these chairs, brought out under the trees, we spent several of the warm hours of the day, while the bees were hurrying back and forth. The honey crop had hardly yet fairly begun, for some hives had no honey. But the fields were thick with white clover, alfalfa and sweet clover. A number of the honey-plants are tried by him, but those named are the main reliance for honey.

While walking about among the trees, and from one little lawn to another, we came to an open space containing one little bunch of dried grass, evidently freshly cut. Mr. Stolley called to my wife, "Mrs. Dadant, let me show you something nice." He lifted up the grass and showed us—five little rabbits snugly hidden in their nest. "I found them," said he, "while cutting this grass, and for fear they might be hurt, I covered them with this bunch of hay. But I left an opening in the hay, so the mother could get to them. When I came back, I found that the mother had discovered them and had carefully trampled the hay down, so that no trace of them could be seen. Do you hear my dog howl at the barn? Yes, I have him tied, for fear he might hurt these little fellows. In 2 or 3 days they will be able to take care of themselves, and I will turn the dog loose again." It is of such mettle that our good apiarists are built—lovers of nature and observers.

Mr. Stolley is 76 years old, looks hardly 60, and is of such cheerful disposition that he is probably good for 20 years or more. His ambition seems to be to be happy and make others happy around him, and I believe he succeeds. After all, are we not all seeking happiness, and does happiness consist only in piling up dollars behind the doors of a bank vault?

Mr. Stolley's grove, his bees, and his pets, give him ample satisfaction. We were told that some 3 years ago Roosevelt visited Grand Island and made a speech there. And as the Stolley grove is the finest drive around that section, the citizens took Roosevelt to the Stolley grove. He saw the lanes, the arbors, the lawns and the bees, and he was so delighted that he enthusiastically remarked, "Mr. Stolley, I envy you."

But I am not through with the bee-question. Mr. Stolley cures rheumatism with bee-stings. Before I tell you of his method, I must first inspire your faith in his medical skill, by telling you that in the old days—in the '60's—he was a "medicine man" among the Indians, and had many friends in their tribes. Being naturally of an observing mind, as I have shown above, he had noticed that the Indians suffered generally from over-eating. Accustomed to fasting for days and weeks when the game was scarce, if they happened to kill a buffalo or a deer, they would eat to excess, and their intemperance led to indigestion. Mr. Stolley took note of this, and repeatedly cured his sick savage friends by giving them a good dose of epsom salts. That is how he became a renowned medicine man. So I take it for granted that the knowledge of this will make you more willing to try his rheumatism cure.

Mr. Stolley has cured numerous cases of the worst kind of rheumatism—in some instances where persons had almost entirely lost the use of their limbs—by administering bee-stings; beginning with one sting, if there was any doubt of the ability of the patient to stand a greater number, but usually beginning with 5 the first day, then 7 or 8 the second day after, then increasing the dose once a week, until 12 or 15 were inflicted at one time. His method of applying the stings is as follows:

Catch the bees, bring them to the house and let them fly to the window-pane. Then with a wet sponge catch a bee while it is on the window, bring it to the suffering limb and press the sponge down, slightly releasing the bee from the grasp of the sponge, and it will at once protrude its sting in self-defence. Mr. S. asserts that he has cured many difficult cases which the doctors could not improve. This remedy is worth trying.

After a two day's visit, during which we enjoyed many a chat, and heard dozens of interesting anecdotes concerning the life of the pioneer among the Indians and the buffaloes, we took leave of our kind friends and continued our journey towards the West.

From Foreign Fields, With Notes.

BY F. GREINER.

Such old veteran bee-keepers of Germany as Dzierzon and Guenther held, and hold, that the queens from post-constructed cells are just as serviceable and long-lived as queens from pre-constructed cells, and E. Bohm, forester in Seegefeld, defends this theory in the late number of Leipz-Bztg., at the same time he condemns American methods of rearing queens; I suppose he refers here to the transferring of larvæ into artificial or otherwise obtained cells, predicting that this practice will soon be out of date and disappear like an infertile blossom, which will wither and drop off.

The only difference between a queen from a post-constructed cell and one obtained by transferring larvæ to prepared or natural cells, is the transferring act, for we have it in our power to select larvæ of the same age, as would be taken by the bees. If cells were constructed by the bees over eggs (normally) there might be more reason for objecting to the American practice of transferring larvæ, but as the bees do not do so there can be no objection except it can be shown that in transferring the larva is injured.

We know that bees have no sympathy with any of their kind when accidents occur, or when a sister is ailing. On the other hand, they show no mercy, and cast the injured babies or sisters out of the hive. They are the worst cannibals that may be imagined, for they appropriate the blood of the cast-out babies to their own use before casting the cadaver aside. If we injure a larva or nymph, the inmates of the hive discover this at once and proceed to remove it. If we injure a larva in transferring, I judge they will not be slow to remove it; the fact that they do not remove it is in itself the proof that the little bee-baby is all right. If it had been injured, it would not grow and develop into a perfect insect, as we have occasion to see it every season.

It is my opinion that, if a queen reared according to the American method, is not as good as one reared from the eggs as in swarming-time, or a supersedure-queen, then the queens from post-constructed cells are not as good.

Our German friends claim that our American queens are short-lived. How true this is I am not prepared to say, but I have not observed that there is any difference in this respect between naturally-reared queens from untampered black stock and the queens we rear by transferring larvæ to artificial or natural cells.

It is possible, perhaps, to overtax a colony of bees by compelling them to rear too many queens, or to have queens reared at an unseasonable time. It may be that inferior queens are thus reared and sent out by some queen-breeders. But when a big, rousing colony during the honey season rears no more than 8 or 10 queens at a time, I can see no reason why these queens should not be as good as any grown in post-con-

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structed cells, although the larvæ may have been transferred by the bee-keeper.

I am inclined to the belief that the queens, which are reared without any interference of man during the swarming season, are a little the best, but I do not know. Some hold that by rearing queens out of the swarming season, and by compelling the bees to use worker-larvæ for the purpose, a strain of bees will result which is less inclined to swarm. I find this opinion expressed by German and American bee-masters alike.

Herr E. Bohm speaks in the same paper of the new method of having queens mated from queenright colonies, i. e., without removing the old fertile queens. That this may be done is fully explained in Doolittle's "Queen-Rearing," of 1889. Herr B. in a way gives credit to the Americans, but says that their method is uncertain and unreliable, as well as too complicated and taking too much time to be practical. He himself is conducting experiments along this line which he expects to finish this year, and which promise to be superior in result to anything known. This is good news, and we will be thankful to Mr. B. if he gives us a practical method to mate queens in this way, but he will not be able to claim priority of the idea, although he mentioned this idea to visiting friends last season.

I never had an entire success mating queens this way, but my method was not laborious. From the fact that queen-breeders and bee-keepers employ fertiliizng-boxes it will seem, that the latter method of mating queens is regarded as safer and cheaper.

Demand for Propolis.

There does not exist a demand here for propolis. I do not know what use it may be put to, but I notice that the article is wanted in Germany. R. Spiegler in Grosshennersdorf, offers to pay about 25 cents to 50 cents per pound for it, according to purity.

After scraping my wide frames and supers I had about 8 pounds of propolis saved. Of course, some little wax-particles went in with it, such as little "legs," which the bees build at times to connect the comb and the separator. I have not much trouble this way, but once in a while I find a colony which is great in this. I find, also, sometimes, a little wax on the underside of the bottom-bars, and in a good honey season, or during the heaviest flow, pure wax is sometimes used in lieu of propolis.

To separate this wax from the propolis, I dumped the whole mess into an iron kettle, which was placed on a hot stove. When all was melted, the wax, being lighter than the propolis, rose to the top and stood there in little puddles. I poured it off from time to time into a pail of cold water; to obtain the last, I dipped it off with an iron spoon. The melted propolis was finally poured out on to a wet board. It formed a cake of 5 pounds with a very little wax still in it. The obtained wax is of fine quality and weighs 3 pounds. It will not bother me to find a market for this, and I shall save up the propolis for a future buyer.

I supposed at one time that propolis and wax could be melted together and form one mass, as in making grafting-wax of resin, wax and tallow, but it does not do so with me; the two substances separate when hot.

Naples, N. Y.

Spring Stimulative Feeding of Bees

BY A. C. F. BARTZ.

These words have headed many an article of bee-papers, in recent years, and many and hot have been the discussions on this very important topic, by the advocates as well as by the non-practitioner; and I believe that sometimes the reader has been led to believe that the writers taking either side of the question did not know what they were talking about, as they, pursuing one way one season and finding it a success, would very often prove the contrary another season. I, myself, have very often been "at sea" to know exactly whether or not it would be profitable to feed bees in the spring in order to stimulate brood-rearing; but with the experience I have now, I feel safe to say to the bee-keeping world, when to feed and when not to feed. In the following I shall endeavor to explain why it *does* pay to feed, and why it *doesn't*.

Some of the readers of the American Bee Journal will remember my advocating feeding bees in cold weather. Notwithstanding the protests made by some, against the feeding of bees in cold weather, I am now ready to take all and every responsibility, as far as to damages done to bees by feeding in early spring, (excepting the feeding at daylight in cold weather), upon my own shoulders, and if any one would get a chance to go through an experience like the one I am just passing (May 14) with my 250 colonies of bees, and seeing the results of what feeding does, I do not believe there would be any more disputes as to whether or not it pays to feed.

Now I will tell how I came to find out. After taking my bees from the cellars on April 1st, and finding that they had wintered in first-class condition, I felt satisfied that nothing was to be done after that, only to see that each colony had enough honey to carry them through until they could gather some from the soft-maple and hard-maple sap, in which this country abounds.

I just gave them a hasty inspection, and marked all colonies light in stores, and also those having too much honey, which were about 50 or 60, as I generally do take away from those having too much and give to those having not quite enough; but this last-named chance I was not to enjoy this year, as we did not get a day, after April 3, on which it was safe to open a hive, until away into May.

I was compelled to put feeders on those colonies not having enough honey, and feed sugar. So I put on 12 feeders of large dimensions, and about 24 smaller ones; and I fed those bees every day that I found their feeders empty, leaving those 60 colonies with their surplus honey to themselves, hoping from day to day to get a chance to take away some of their honey, but such a spring I never saw!

A change in the weather came at last, and on May 13 I was permitted to see what I had been doing; hence this article.

In the 60 colonies with too much honey, not one of them contained 4 combs of brood, and their number of bees had melted away to half the strength they had been when taken from the cellars; others with not so much honey had perished entirely, and others dwindled down to mere handfuls. But what about those fed? I'll tell you. I was never more surprised in my life, and I don't remember ever being much more pleased than I was when opening the hives of those I had been feeding, especially those 12 with large feeders—why, some of them have brood in 9 combs, none less than 6, and they're "boiling over" with bees, so much so that I have given them a second story, and some even a third! They look like so many mammoth hives. I can divide every one of them, and will do so in a day or two; this will give me at least 24 rousing colonies.

Now, you see what this feeding did—it not only stimulated the bees to the highest activity of brood-rearing, but it prevented spring dwindling entirely—the very thing which is so much feared by some of our writers; when writing about feeding in early spring they claim the bees leave the hives when the weather is unfavorable, and get lost, and thereby dwindle. This is a theory, and entirely wrong, and "falls all to pieces," as Mr. Hasty says, when brought against practical experience.

I wish to say, further, that the sugar I fed was the best granulated cane-sugar, made to the consistency of half sugar and half water, by measure, and fed very hot.

My feeders have a galvanized iron bottom, and cover the entire top of the hive. Certainly the heat from this feed had considerable to do with the bees breeding up so fast, but I could not get the heat unless I used the feed.

Another thing I'd like to mention is, that the amount fed to those colonies was more than they could use—they stored a little—from 5 to 6 pounds per colony, and the feed was given at night, sometimes by lantern light.

I just want to mention that if bees gather pollen every 2 or 3 days—or even water—they need no stimulative feeding in early spring, providing they have plenty of honey in the hive, because pollen is a stimulant, as well as water; in fact, anything they can gather outside arouses them to activity, but when they do not fly for 2 or 3 days or weeks, or even a month, then the thing assumes a diffrent aspect altogether; and should it become so cold as to compel the bees to form a solid winter cluster, then it will clip from day to day part of the cluster, and many of the young bees within the cluster will drop off for want of honey, because there is not unsealed honey enough within the cluster to carry on breeding, and nour-

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ish the young bees, and hence spring dwindling.

I therefore conclude that I shall feed my bees, after this, in early spring, when the weather is too cold for them to fly for 3 or 4 days, no matter how much honey they have in the hives, unless it will prove that it is better to give each colony about 10 pounds of unsealed honey as soon as they are taken from the cellars, which I expect to experiment on another year. Others might try similar experiments, and report in the American Bee Journal.

Keystone, Wis., May 14.

Under Cross-Examination on Matters Apiarian

D. M. MACDONALD.

At your special desire, and in agreement with your express wish, I step up into the witness-box to be cross-questioned. You accuse me, on page 389, of three instances of ambiguity consequent on the brevity of my extracts from the veteran Dr. Miller's work; and on page 429 you seek to pillory me for use of the word *impossible*. I really think that on all the points animadverted on, if you had read with your usual perspicuity, the so-called puzzles would have been evaporated. But lest I unwittingly do injury to any one of our mutual friend's "kinks," or mystify your or our readers in any way, let us proceed to evidence, first premising that the extracts were merely intended as texts on which to hang sermons; and that they were supplied to whet the appetite of British readers for "some more." I have reason to know the result was that several additional copies of "Forty Years Among the Bees" found their way across the "herring pond."

1. In regard to securing all worker-comb from starters, Dr. Miller is not singular in considering the very best way of insuring this is to work for it in weak colonies. This is a truism whch I deem requires no elucidation from me. Any amplification, even, is not necessary, because in two almost preceding "extracts" will be found a description of the Doctor's frame, with his process of "wiring" in full sheets of foundation, in his words "providing beautiful comb," thus showing as clearly as words can that this "grand old man" of apiculture knows how to get all worker-comb in various ways.

2. Reducing the brood-body to about 8 frames at the opening of the honey-flow, in order to force the bees to engage in super-work, is a very general practise. As the extract objected to for its ambiguity follows one dealing with the opening of the flow, and another treating of the sections used, its brevity should not lead even a novice astray. Indeed, the natural sequence of half a dozen extracts distinctly shows how, why, and when the number of frames should be reduced.

3. Increase by taking frames of brood to an out-apiary is an excellent style of procedure. Dr. Miller shows a liking for it and recommends it, but the two preceding extracts show as clearly as possible that Dr. Miller has more than one string to his bow, and practises home increase. "Plugging with green leaves" implies nuclei in the home-apiary, while "taking a frame from a nucleus" to requeen leads us to infer that nuclei are there for more than one purpose.

Now, let me deal with page 429. I still stick to the "Impossible" argument. Apparently you read the word as if it meant that bees *can not* place newly-gathered nectar in brood-combs. In this sense of course the contention would be manifestly absurd, as everyone who has handled frames finds in them very frequently a thin liquid "which looks like nectar, tastes like nectar," and *is* nectar. But my original paragraph most distinctly stated as much where I mention "*unsealed honey* ready for the nurse-bees."

So much for the sense in which the word was used; but let me take a step further, and show why I deem the doctrine of transference an old wives' fable. Read what I wrote, how every cell is already occupied, and tell me, if these cells are already full, how they can admit this nectar. They can not be twice filled with two different substances at the same time. *C'est impossible!*

I will now step down from the witness stand and call on Mr. Doolittle (who was supposed to favor your first contention) to give testimony in my favor. Read Gleanings, page 691:

"To give the best results in supers, the combs at the commencement of the honey harvest must be literally *filled with brood*. With the combs thus full of brood the first storing is done in sections, and, having commenced therein, the bees continue with little honey (very small percentage) being put in the brood-chamber till near the close of the season."

Any jury, British or American, will acquit me of error or even exaggeration in claiming it is impossible for nectar to be stored in the brood-nest, when it is already full of brood. Therefore, let us revise our ideas if we find them wrong.

Banff, Scotland.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Keeping Colonies Always Strong

It is one thing to talk and write about keeping bees always strong and ready for any unexpected honey-flow in this State, and another to do it, and especially is this true if you have more than one yard to look after.

In February and a part of March we had unusually warm weather, and the bees bred up in a way that was pleasing to the apiarist, and a few of the most thrifty colonies cast swarms in March, only to repent of their folly, perhaps, as the next two following months were the worst I ever saw for bees in the 49 years I have been in Texas. It was cool—yes, cold—cloudy and dry almost the entire time, with the result that a great many of our queens stopped laying in the height of the breeding-season, and today most of our colonies are weaker than they were the first of February; and that, too, after having fed several barrels of sugar. So it's not so easy to "keep all colonies strong" where one has out-yards that he can visit only once in 10 days or 2 weeks.

Against Handling the Bees During the Honey-Flow

A good many of our best apiarists advise working with bees in time of a good honey-flow. That is very good advice in some cases, but there are serious objections to working with bees in time of a heavy honey-flow, one of the worst being the killing of bees. At such times the bees are all filled with honey, and are very much disposed not to get out of the way while manipulating them, and are crushed. Then, another objection is, it seriously hinders them from their work, and at a time, too, that we can least afford it, for the honey-flow is usually short at best, and the least disturbance during such times is by far the best, provided, of course, you are sure they have plenty of room. My advice is to watch and study your locality and if you don't know when to expect your main honey-flow, you should by all means find out, and do the principal part of the work with the bees *just before* it starts. Then let the bees alone—if you are *sure* they have plenty of room—until the flow is about over.

I am off to my 3 out-yards to see how the bees are doing this evening, (June 17). The weather is hot and dry, and a light flow is on from mesquite. I want to put on shade-boards, and help the bees in every possible way I can, so as to get them built up good and strong by the middle of July. That is when we expect the sumach to bloom here. If we don't get more rain, though, the bloom will be very light. L. B. SMITH.

Rescue, Texas.

After all, Mr. Smith, *I* still believe

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that a *bee-keeper can* keep his colonies *always strong* if he *is* a bee-keeper. Take, for instance, the case of Dr. C. C. Miller, of Illinois. The season there was not unlike ours. Warm weather caused bees to breed up and become strong, when the cold snap came upon them. Now, Dr. Miller, old and experienced bee-man that he is, knew, or thought he knew, that his bees were suffering, and would come through weak. But did they? No, there were just enough stores for them, and they were strong in bees, and in fine condition when warm weather came again. Then, the Doctor *was* bee-keeper enough to examine them—found them at the starving-point, and gave them nice, fat combs of sealed honey from his reserve stock, and, presto! his bees are in fine condition for the harvest.

It might be intimated that the locality had something to do with it, especially since Illinois and Texas are quite a few paces from each other. But hold, just a bit south of Rescue, Tex., there is a fellow who did exactly what Dr. Miller did—not with only one yard, but a dozen of them.

Distance and locality had very little to do with it in this instance, for, let us jump up into Michigan (see editorial, Bee-Keepers' Review, page 179). Exactly the same condition still farther north, and making a greater distance between Mr. Hutchinson's apiaries and my own here.

Leaving plenty of honey in the fall, equalizing stores in the spring and giving protection to the hives in the spring, if they are not already in a sheltered place, will help much in keeping colonies strong throughout even a season such as this one.

It will be only fair for me to remark that North Texas, where Mr. Smith resides, is a peculiar one for bees in the spring. There is very little natural resource for them in the early spring, compared with most localities, and this is later followed by an entire dearth until about July 1. It is a problem to keep bees over this "gap," in good condition. All the stores are used up in spring in rearing brood, (no matter how much honey is left in them. Colonies "rich" in stores will swarm, only to starve later, unless helped. This is a problem to be contended with there.

Work for Improvement

A picture of much interest to many of us nowadays is shown here. Although box-hives are a thing of the past in many localities, there are still a few of them.

Now for the improvement that could be worked for in an apiary of this kind: First, the very style of hives does not allow of proper manipulation of the bees, etc., hence best results can not be obtained. Control over the bees is hampered to such an extent that the race of bees is far from a good one; and this combination with an over-abundance of swarms, can mean only a meager income for the owner who claims to obtain an average of "a gallon of strained honey apiece from the good colonies during a good season." An average of 12 pounds!

Far better to transfer the bees to modern hives, double up the number of colonies, introduce good queens, prevent, as far as possible, an over-abundance of swarms, and obtain much larger yields of superior surplus honey, an increased income, with less "fussing."

There is a difference between these two apiaries. In one, the owner prides himself with the number of "gums" he has; in the other, how much surplus honey he obtains from his colonies, and how much *pleasure* and *profit* they realize him.

We know that the larger the number of colonies in a given location, the more honey is consumed before any surplus goes to their owner. I have preferred *intensive* bee-keeping rather than *extensive;* but, of course, this does not mean that bees should not be kept extensively at the same time. Keep better colonies—not only a large number—and make all there is in it out of them, is a good rule for all of us to go by.

The Old Way

The New Way

Conducted by J. L. BYER, Mount Joy, Ont.

Another Poor Honey Season

The clover has come and gone, and from reports to hand the honey crop from that source is but little better than the year 1906. The poor condition of the bees in general throughout Ontario, to a certain extent explains this result for some sections, but in our own immediate district there was almost no honey in the clover. Just why, is hard to explain, as the clover was in splendid condition, and the weather, at least some of the time, simply ideal. True, it has been very dry with us, yet many a time I have secured good crops when it was much dryer than this year. In my 3 yards only 8 swarms issued, and 6 of these came in fruit-bloom. Colonies in the home-yard that about filled a super from fruit-bloom, did not store 10 pounds from the clover. With two

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years in succession being failures, the outlook is certainly somewhat discouraging; but as our average from clover for the 7 preceding years was about 100 pounds per colony, we still look for a return period of prosperous years. Any way, as the President of the Ontario Association said last year in his address, "We are one year nearer a large crop, than we were a year ago."

The basswood looks well and is just opening, and as I write (July 22) we are having a splendid rain. With favorable weather we might get some honey from that source, but basswood, with us, is such an uncertain yielder that any honey from it will come as a happy surprise. Quite an acreage of buckwheat has been sown, so there is a possibility that the bees may get enough at least for winter stores.

Heavy Loss of Bees

During the past month I have been in different sections throughout Central Ontario, and the thing that has struck me most forcibly is the tremendous loss of bees during last spring and winter. Fifty percent would not be an exaggeration, and while the heaviest losses are among the farmers who have bees, yet many of the specialists have been hit—and hit hard, too. One thing is certain, for the next few years, for what honey is obtained, good prices are assured.

Another thing that has impressed me, is the great carelessness that so many bee-keepers show in the care (?) of their bees, and the wonder is that some have any bees left at all. In different places one will find section-cases on the hives without any foundation in the sections, and, in a few places, cases without even empty sections in. It reminds one of the Egyptian taskmasters who forced the Israelites to make "bricks without straw"; and yet these same bee-keepers will wonder why their bees "don't do well!"

Needless to say, when foul brood is found in bees kept under such lax conditions, it means a lot of trouble for the bee-keepers, inspector, and all concerned.

Requeening Colonies

At the Chicago-Northwestern Convention last year, the following question was asked:

"Shall we requeen colonies having old queens, or let the bees do the work of superseding?"

In the discussion on this question, opinions were about equally divided, such veterans as Dr. Miller, Hutchinson and others were undecided in their views; Taylor, Abbott and some others would leave the matter to the bees; and Mr. France would practice requeening.

My own experience would lead me to say that if we know that a queen is about to fail, by all means supersede her, as here, in "our locality," the bees do not always, by any means, attend to the matter. As one member pointed out, queens are not all *old* at the same age, some playing out at one year, while others will give good service at 3 or 4 years. Yet, as a rule, queens in their third year are not to be depended upon. As an exception to this rule I might mention the fact that last year we had a queen that was 7 years old. There was no mistake about this at all, as the queen—a Carniolan—was clipped, and up to the 6th year her colony was always one of the best in the yard. In the spring of her 5th year, the queen looked more like a large ant than a queen-bee, and the hive was marked for supersedure. In the spring of her 6th year she was still there, looking much the same; and in 1906—her 7th year—the colony was only in medium condition, the queen hardly able to crawl around, a daughter taking her place during fruit-bloom.

Previous to the past spring, nearly my entire loss during winter and spring was from failing queens; and I think I am safe in saying that fully 90 percent of the weak colonies I have examined this year have been headed by old, failing queens. By all means, let us requeen more, and not trust to the bees to do their own superseding.

Methods of Rendering Beeswax

A short time ago, while traveling, I met a gentleman who is proprietor of a silver-plating establishment. Finding that I was a bee-keeper, he informed me that they used a very large amount of beeswax in their factory in the process of manufacturing their different wares. He was anxious to buy wax, but would do so only by having samples first submitted for trial, as he said that wax rendered by certain processes was absolutely useless for their purpose. He referred to the process of pressing out the wax under hot water, and said they had bought a large quantity of wax rendered in this way, and that they could not use it. Wax from cappings was not suitable for their purpose, either; the ideal wax for their use being that rendered from old combs in the cold-press—the Hatch-Gemmill for instance.

While wax rendered by the hot-water press is all right for foundation purposes, from unbiased reports to hand, there seems to be no question that for some purposes it is not as good as wax taken by the old processes.

Only a few days ago I received a letter from a prominent Ontario bee-keeper who has both styles of presses. He says: "The hot-water press gets all the wax all right, but the quality of wax is not nearly so good as that taken from the Hatch-Gemmill." Although he has the hot-water press, yet he first puts the old combs through the unheated press, and afterwards runs the slumgum through the other machine.

While on the subject of wax-presses, I believe the writer owes the American Bee Journal readers an apology for not reporting, as promised, results of experiments in heating some hundreds of pounds of slumgum with the Hershiser press. By way of excuse, I will say that circumstances have prevented me, up to the present, from doing the work. However, the slumgum is still on hand, and as soon as the work is done, results will be published.

Making Increase by Dividing Colonies

In the present article I wish to call attention to a few of the details of "shook" swarming that are of prime importance if this method of handling bees is to be made a success.

When increase is desired part of the bees and queen are shaken out in front of a hive placed on the old stand and fitted with frames of foundation or drawn-out combs. The old brood-combs with some adhering bees are then placed upon a new stand, and the queen-cells already started are allowed to remain. To prevent after-swarming only one or two of the best cells are left, and from these the mother of the colony is produced.

This plan has several very severe faults, and, if practised for any length of time, will result in a deterioration of the whole yard. Chief among the objections to it might be mentioned three that are of primary importance:

First.—The shaken swarm on the old stand is not as strong in bees as it might be, because part of the bees have been left with the brood.

Second.—Much of the brood set on the new stand will perish, especially the younger portion of it, even if a considerable quantity of bees are left to look after it.

Third.—The resulting queens are about the most worthless productions that it is possible for the bee-keeper to turn out.

A plan that will give all the bees to the shaken swarm, and dispose of the brood in such a way that it is all saved, and at the same time give opportunities for a considerable increase if desired, is outlined below.

First, set aside several colonies that are strong enough to enter supers readily if such should be given. These are to be used as nurse-colonies for the brood taken from the shaken swarms, and when the season has advanced so that preparations for swarming have commenced in some colonies, take away all the brood from such, and replace with frames of foundation. During this operation smoke the bees well and see that they have filled up with honey. Clean all the bees off the brood-combs, and let them run in with the rest, and give them back their supers. This puts all the bees in with the shaken swarm.

Go over the brood and destroy the queen-cells that may have been started. Put queen-excluders on the nurse-colonies and divide this first lot of brood up among two or three in supers placed above the queen-excluders. By using judgment, and not giving a colony at first more brood than it can attend to, the brood-combs will all be looked after, and the nurse-colony to which they have been given will increase in bees at a surprising rate. In a very short time the supers can be filled out with brood-combs taken from other shaken swarms, and after these have been in the hive for a few days, whole supers of combs can be added at a time, until the hive is several stories high above the queen-excluder. After these brood-combs have been tiered up for a week

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or 10 days they are in prime condition to divide up for nuclei. The uncapped brood will all be sealed over, and cells from which the young bees have hatched out will be filled up with fresh honey, and the hive will be running over with young bees that will stay in a new location.

To start the new colonies take from 2 to 4 combs with adhering bees, give them a ripe queen-cell, and place on the stand they are to occupy. Examine in 10 or 12 days, and if eggs are present in the combs the young queen has hatched out and mated; give them more room as needed, and if any further shaking is done after the nuclei are made up, the combs from such can be distributed among them, one or two to each, depending upon their strength and ability to look after the uncapped brood. This uncapped brood in the nuclei will indicate whether or not a queen is present. The bees will start queen-cells upon it should she be missing. If such is the case then insert another cell. Should the honey-flow drop off suddenly it would be as well to stimulate these nuclei with a little thin sugar syrup and by fall they will be the best colonies in the yard.

In order to get ripe queen-cells at the proper time there is no simpler or better way than by saving the cells from some of the best colonies that have swarmed. Instead of shaking these colonies let them swarm out, and hive the swarm on a new stand. The brood and queen-cells will then have the best of care, and in about 6 days after the swarm has issued, cut out the best cells carefully and proceed to make up the nuclei as outlined above, giving one cell to each. This work must be done very carefully—no jarring the combs that the cells are on, nor injuring them in any way.

If one is acquainted with Doolittle's method of transferring larvæ into prepared cups, and giving them to a populous colony above a queen-excluder, there is no better way to secure ripe cells at this time of the year. True, this method requires some study and experience, but it is time well spent by any bee-keeper, for not only are the queens obtained by it first-class in every respect, but it has the further advantage of hatching them out at exactly the time they are required.—F. P. Adams, in Canadian Bee-Journal.

Brantford, Ont., June 1.

Testing for Honey-Gathering.

D. M. M. says (British Bee Journal, 192):

"In selecting a queen-mother I would place her honey-gathering qualities high above any other trait, but the query arises in my mind—Have even the so-called "tested" queens ever been tested as to their abilities in this line? Certainly not in nine cases out of ten."

That's a very cautious statement. Is there any such testing in 1 case out of 10? In 1 out of 100?

Jarring Embryo Queens.

It is a common thing to caution beginners against handling roughly a queen-cell or letting it drop, as the jar may result in a crippled queen. John W. Moir (British Bee Journal, page 217) suggests carrying this a step further, making practical use of it to prevent swarming. He asks, "Might it not be possible to go around an apiary once a week, and, lifting every brood-chamber so many inches, let it drop suddenly, and thus kill the embryo queens in every cell where they might be?"

But because the fall of a queen-cell may cripple the embryo queen, it does not follow that one would be killed without a jar sufficient to crash the entire fabric.

Annual Renewal of Combs.

In this country old combs are in good repute, a comb being considered all right so long as there is no objection to it besides age. But in England and in Europe it is the practise, at least with some, to renew combs every 5 years, or oftener. One writer in the British Bee Journal even goes so far as to renew combs annually, counting this a help to avoid foul brood. G. W. Avery, British Bee Journal, page 235, raises a protest against such extravagance. While not advocating keeping combs in use so long as 25 years, he cites an instance of combs being kept in use that length of time without any detriment. It is doubtful if any real objection can be raised against mere age in combs, unless it be that after 50 years or so they might need a trifle wider spacing on account of the thickened septum.

Dead-Beat Honey-Buyers.

General Manager France is collecting a list of these, which he will send to any member of the National who applies for it. To many this will be worth alone several times the annual fee of $1.00. Of course, any one who has discovered any of these dead-beats should report the same to Mr. France, Platteville, Wis.

Automobiles Condemned.

W. Woodley (British Bee Journal, page 223) complains that the great amount of dust raised by passing motors settles in the nectaries of flowers for some distance in adjoining fields. Hedges that were formerly white with bloom in June are now practically bloomless because the road authorities keep the hedges cut low so that motorists can see each other coming.

Controlling Queen-Fertilization.

The matter of control of the fertilization of queens has generally been given up as impracticable, if indeed desirable. A tent has not been immensely successful, and if it is ever made a success it will probably be a very large tent, hence expensive. Editor Root has been raking among the archives of a quarter of a century ago, and from Gleanings for April 15, 1882, produces the following item:

"Last season Dan White took all the wingless queens he found, tied a delicate silk thread around their bodies, hitched it to tall pole, when the drones were out thick, and let them buzz around with the stumps of their wings. Three out of ten were fertilized, and he has them laying now."

Dan White is considered a reliable man, and if he could succeed with 30 percent of the wingless queens, might not success be still greater with those having whole wings? As an improvement, Editor Root proposes to substitute for the pole a toy balloon. This, with enough string, would go higher than any pole, and the balloon being anchored below could be hauled down at intervals for observation. It might be added that if, for any reason, wingless queens were better, it would not be a difficult feat to make any queen wingless.

Deep Tank for Clearing Honey.

It is not an easy thing rapidly to get rid of the minute air-bubbles in extracted honey that give it a cloudy appearance. Walter S. Ponder takes advantage of increased weight by increased depth, using a tank 30 inches deeep and 12 inches in diameter. The weight of the 30 inches of honey above causes a more rapid rising of the air-bubbles at the lower part, and at this lower part the clear honey is drawn off. He says that this clearing retards granulation, preventing "that soapy appearance that occurs when jars are heated after being filled."—Gleanings, page 966.

Carbolic acid for Swarms.

A bottle of dilute carbolic acid, a piece of sponge, and a long pole, are recommended in Prakt. Wegweiser to be always on hand in the apiary at the swarming-time. If a swarm settles in a high or undesirable place, quickly pour some acid on the sponge, thrust it up where the swarm is, and like a cloud the bees scatter. If the swarm settles in a place still undesirable, the act is to be repeated, and the tendency each time is for the swarm to settle lower; but the editor warns that too many repetitions may cause the swarm to leave.

Moth-Infested Skep.

In the British Bee Journal a correspondent with a colony of bees in a skep badly infested with bee-moth asks whether he shall set the skep over

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a frame-hive to save the brood. The reply is, "On no account would we put the skep above a stocked frame-hive. To do so would carry the wax-moth pest into the latter." On this side a strong colony would count it "a picnic" to clean out that skep. But it must be remembered that in England blacks are in favor, which is quite another affair. One of the strong points of Italians is the readiness with which they clean out the wax-moth.

Putting Empty Supers Over Full Ones.

"Never put an empty super over one which is filled. Bees do not like to pass over the honey." That's the advice given in L'Apiculture Nouvelle, page 164. While it may not be to the taste of the bees to pass over full combs to work on empty ones, yet not a few good bee-keepers in this country oblige them to do so. In the case of extracted honey, E. D. Townsend says that if the empty super be placed over the full one, the brood-nest will not be extended up into it as when placed under. In the case of comb honey, even those who place the empty sections under during the early part of the flow, place them above toward the close of the season, when 1, 2, or more full supers must be traversed to reach the empty ones.

Big Price for Honey in South Africa.

In The American Bee-keeper it is reported that D. Cairncross, Pretoria, So. Africa, gets an average of 70 sections per colony, which are never sold at less than 2 shillings 6 pence each. Think of 62 cents a section for honey!

The Prevention of Sagging.

In the American Bee-keeper, page 145, is given a plan to prevent foundation sagging in brood-combs that is said to be very successful. The process is protected by patent, and is as follows:

"After the sheets of foundation have been secured in the frames, by any of the methods usually employed, it is placed upon a board similar to that used in imbedding wires. A small paint-brush is dipped into melted beeswax and 3 or 4 dextrous strokes applied lightly to the side-walls on each side of the foundation along the top and downward towards the center, where the sagging is usually apparent."

Hardiness of Golden Bees.

An editorial in Gleanings saying that golden bees were bad in the matter of spring dwindling, has called forth a note in Gleanings from Doolittle & Clark, page 889, in which particulars are given showing that their goldens come through good and strong. There is a wide difference in the hardiness of goldens; all of them are not of the same origin, and some strains seem of feeble constitution.

Bee-Moth a Good Thing—In Some Respects.

"I do not look upon the wax-moth as entirely an enemy to bee-keeping, as there is no doubt that they render harmless many a bee-tree, hive, or other repository in which the bees have built combs and in which the disease foul-brood lingers." — R. F. Holtermann, Gleanings, page 906.

Foot-Room when Uncapping or Extracting.

When one has an extractor or uncapping fixture so arranged that the whole affair comes down to the floor for the toes to strike against, the slight stooping over thus produced is tiresome. C. W. Dayton (Gleanings, page 909) avoids this fatigue by having the apparatus raised enough for the feet to go under.

Washington State Commission Law.

The State of Washington is making an experiment which will be watched with considerable interest in all parts of the country. A law was recently passed by the legislature of that State, compelling all commission houses to file a bond. Houses not rated at more than $20,000 have to put up $3,000 for the faithful performance of their duty toward those who ship goods to them. Another provision is that an account-sales must be sent to the shipper within 48 hours after the receipt of the goods.—Gleanings, page 890.

That seems to make a safe thing of sending on commission, but will not being obliged to sell within 48 hours result sometimes in very low prices? Is it not possible that there is a mistake in the matter, and that the law requires an account sales within 48 hours of the sale of the goods?

Alexander Plan for Weak Colonies.

J. L. Byer says in the Canadian Bee Journal, page 163:

This spring I have received several reports from bee-keepers who have tried the Alexander system of tiering up weak colonies over strong ones. While these reports have been somewhat contradictory, it is noticeable that where success is reported, the bees were pure Italians, and where failure attended the plan, in most cases the bees were blacks and hybrids.

A Cow with a Sweet Tooth.

R. F. Whiteside says in the Canadian Bee Journal, page 178:

"My old cow tipped over 10 or 12 supers full of extracting combs (left for the bees to lick out) and ate clean up over 100 good combs for the sake of the honey in them, last November, when I was at the Toronto Bee Convention."

Give the Bees Their Share.

There are some who think it poor economy to cheat the bees out of their well-earned stores. E. G. Hand says, in Canadian Bee Journal, page 180:

"The writer prefers not to be greedy any more, but to let the outside lower combs be filled solid with the best honey there is, which is none too good for the bees in their long winter confinement."

Poor Consolation.

Aunt Lucindy was in deep distress over the loss of her son Jim, and a neighbor sought to console her, saying:

"Don't grieve for him, Aunt Lucindy. He has gone to a land flowing with milk and honey."

With a dismal countenance, the old darky replied:

"Jim never did like milk, an' honey always made him sick."

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Dividing Colonies—Introducing Queens—Putting on Sections

1. Will bees do all right if they are divided with brood-comb and no queen?

2. How late can I divide them and have them do well?

3. What is the best time to introduce a queen? Do I have to kill the old queen before I put in the new queen?

4. What time is best to put on sections? Nebraska.

Answers.—1. They may do all right, and they may do all wrong. If they are strong enough, especially in young bees, and have eggs or very young brood, they may rear a queen of their own and be all right. But a full colony is none too strong to have a queen-cell up to the time it is sealed. If you give your nucleus, or divided part, a cell nearly ready to hatch, then it is likely to come out all right.

2. That depends on the season. Some years, and in some places, a colony might be divided in the last of August and do well, but if there is little pasturage after that time it would be a failure.

If you are going to make such division, merely separating the colony into 2 parts and leaving to the bees the rest, let me suggest that you do it as soon as possible, and proceed in this way: Take half the brood and bees *and queen,* and put in a hive in a new place, leav-

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ing part on the old stand. The flying force will be on the old stand, and being strong that part ought to rear a good queen. There is a possibility that a swarm might issue in something like 2 weeks after the division.

3. Any time when bees are doing well and gathering. Generally the old queen is removed before the new queen is introduced. Sometimes the new queen is caged in the hive perhaps 48 hours before the old queen is removed, then the old queen is removed, and at the same time the candy is left exposed in the cage, so that the bees can liberate the new queen. This latter plan is safer.

4. As soon as, or a little before, there is anything for the bees to store in them. In white clover regions that will be about as soon as clover is in bloom.

Let me advise you very strongly to get a book of instruction on bee-keeping. It may be worth several times its cost to you, for a good book of that kind might double your success.

Late Reared Queens—Wintering Virgin Queens

1. How late in the season can queens be reared and mated?

2. Can virgin queens be wintered over in nuclei, and mated in the spring?

OREGON.

ANSWERS.—1. That depends on the season. If honey is yielding, any time through September. But you are not likely to have good queens if you rear them too late, and losses on wedding flights will be greater.

2. I doubt it.

Nucleus and Swarming Questions

1. Two years ago I sent away and got 2 3-frame nuclei of bees. I will designate them as No. 1. and No. 2. No. 1 I put into an 8-frame hive on full frames of old comb; No. 2 in a 10-frame hive with old comb. No. 1 in the 8-frame hive built up and gave me one swarm. I hived them on the old stand. They built up and swarmed again, and gave me 30 pounds of section honey. No. 2 did not swarm, and gave me no honey last year (1906). No. 1 gave me a number of swarms and 100 pounds of section honey. No. 2 did no swarming and made no section honey; and this season No. 1 is doing fine, while No. 2 has done no swarming, nor has it done anything in the sections. No. 1 has sent out 2 swarms and is working well in the sections.

What is the trouble with No. 2? What can I do to make them more profitable? They seem to be fairly strong and have a queen and brood, but never have swarmed nor given me any honey.

2. If when the first, or prime, swarm comes out and is hived on the old stand with the old colony beside it, and in 6 or 8 days the old colony is moved and it should send out an after-swarm in a few days after being moved, would it do to put them in with the prime swarm on the old stand, or would it be better to put them back with the old or parent colony?

3. Which would be best for the production of section honey?

4. If put back with the old swarm, would it be better to put them back at once, or have them on empty frames, and in 24 hours restore them?

5. Would it be all right to return a prime swarm if one did not care for increase? If so, how should one proceed to do it? MAINE.

ANSWERS.—1. It looks very much as if the trouble lay in the character of the bees themselves. If that is the real difficulty, the remedy lies in changing the stock, which you may do by replacing the queen with one reared from your colony of better stock.

2. Generally there should be no trouble in either case, but they would be more certain to be received kindly if returned to the mother colony; in fact, there would be no question about such reception. But the usual thing would be not to have any second swarm when the treatment you mention is used.

3. Returning to the swarm, probably as the mother colony is generally so reduced that it does little in sections.

4. Generally it would make no difference. But if there was any danger of further swarming it would be better to wait 24 hours before returning, for in that time the surplus queens would likely be put out of the way.

5. Yes, but you would be likely to have a good bit of returning to do, But if you are willing to return the swarm every time it issues, the result will be very satisfactory, in all probability. But you can cut out most of the swarming in this way: When the prime swarm issues, return it, killing the old queen. You can kill her before you return the swarm or after. Then somewhere in the neighborhood of 8 days a swarm will probably issue with the first of the young queens. Hive it in a separate hive, and a day or 2 later return to the old hive.

Storing Honey Near the Apiary

Can I store honey in or near my apiary without the bees "fussing" around the box or house in which it is stored? The box, of course, is bee-tight. ILLINOIS.

ANSWER.—If you store honey so that the smell can escape, you may count on the bees "fussing" about it at times when forage is scarce. Especially is this the case when first put there. After they have tried to get into it, and failed, they are finally likely to give it up.

Bees Don't Work in Supers

I have lately started to keep bees. I have both Italians and blacks. The hives are full, but the bees won't work in the supers. Why? NEW JERSEY.

ANSWER.—Without knowing anything more about the case it is not easy to be sure just why the bees do not work in the supers. The safest guess is that they don't need to, there being too little honey gathered to make it necessary to store it outside the brood-chamber. If there is really anything for them to store in supers, you can hasten a beginning by putting some sort of a bait in the supers. If you have any sections that have been partly filled and then emptied, they will make good bait. In lack of anything else you may put into a section a piece of comb cut out of a brood-comb. If you use extracting-supers, no bait is needed other than drawn-out combs, although if you put a comb from the brood-chamber in the extracting-super (provided the frames in both apartments are of the same size), the bees will start storing there at once if they have anything to store.

Italian Bees and Yellow Bands

1. Do Italian bees all show yellow bands? If some show less, what are they?

2. I have one colony that has two kinds of drones. About half show yellow bands, while the others do not. The workers do not all show 3 yellow bands. What race are they? TEXAS.

ANSWERS.—1. The workers of Italians should show 3 yellow bands, but the first band—the one nearest the head—is narrower and more indistinct than the other two. If some of them show less than 3, they are hybrids.

2. The drones are not uniform, and only the workers are relied on to decide purity. Your colony of bees that do not all show 3 yellow bands are hybrids, unless some bees have entered from other hives—a thing that often occurs. To be entirely sure, examine the young bees that have not left the hive; if all of those have 3 yellow bands you may count them Italians.

Balled Queen—Jumbo and Dadant-Blatt Hives

1. When passing through the bee-yard a few days ago, I saw a ball of bees at the entrance of one of the hives, and placing my firmer-chisel back of the ball I threw it out on the ground in front of the hive. Then I smoked the bees till the ball opened so that I could see a queen-bee inside. I caged the queen, and then made an examination of the colony. I found only one queen-cell, and that was sealed. When superseding a queen do bees often kill her at this stage of the operations?

2. What is the difference between the Dadant hive and the Jumbo hive? I have some hives with bodies 20 inches long and 12 inches deep, made to take 10 frames. Such hives, I believe, were called in Europe the "Dadant-Blatt" hives. After making and using some of these hives for quite a while I began to read in the bee-papers about the Jumbo hive. Does it differ from the Dadant-Blatt hive? IOWA.

ANSWERS.—1. Unless I am very much mistaken, the case you mention is a very unusual one. So many cases have been reported in which the mother and the superseding daughter were in the same hive together that it is not considered the rarity it was some years ago. If no further queen-cells were started, the existence of the colony

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would be jeopardized by the killing of the queen. You do not say whether the queen had been laying continuously, leaving eggs and brood in all stages present. If no unsealed brood was present, it may be that the queen was no longer capable of laying, hence voted of no value by the bees, in which case it would not seem so very strange that they should get rid of her. But if the eggs were still present, I should feel inclined to inquire whether the queen you found balled had not come from some other hive, the queen belonging to the colony still remaining at work. Of course, you could decide this by seeing whether laying continued after the removal of the queen.

2. The Jumbo hive is a modification of the Langstroth hive made for the benefit of those who might wish to try a deeper frame without the expense of making an entirely permanent change. The only difference is that hive and frame are in the neighborhood of 2 inches deeper (2⅛ inches deeper, if memory serves), so that they could be cut down to the regular depth if the owner desired to change back. Moreover, cover and bottom-board would be the same for the Jumbo as for the shallower hive. The Dadant, or Quinby, frame is 18½x11¼, the same depth as the Jumbo, but ⅞ longer. I'm not sure whether the Dadant-Blatt is the same thing.

Queen and Nuclei Questions

1. Some time ago I started to make a few nuclei, taking one frame (with adhering bees with nearly all of the brood sealed in each frame) from each colony, the youngest larvæ or brood not over 6 days in these frames, and there was very little of this unsealed brood in each frame used to form these nuclei, and the most of the nuclei formed were made 2-frame strong, but I made 2 nuclei with 4 frames in each hive, and all of the nuclei were given a mated queen that had laid in nuclei before, and the queens were given to the nuclei in introducing-cages, one day to 3 days after the nuclei were formed. The 4-frame nuclei that I formed I gave a queen in cage 3 days after they were formed, and these 4-frame nuclei killed the queens some time after they had commenced to lay eggs in the frames. Now the two 4-frame nuclei had queen-cells started with at least 6-days-old larvæ in the cells when I was about to put in the cages to them, but they were destroyed, and the next time I looked at these 4-frame nuclei I found that the queens had started to lay, but had been killed, and that the bees had started to make queen-cells from the eggs in the frames where the dead queens had laid. I took away the frames that the queens had laid eggs in, and then gave them virgin queens, and when they had released them they killed them, too. I then gave them a frame each of newly-laid eggs; they started queen-cells at once, and they hatched out a queen each in these 2 nuclei, and these queens are now laying queens. Why did these bees not want the queens and virgin queens I gave them in introducing-cages?

2. Is it any safer to introduce queens to one or 2-frame nuclei in place of a 4-frame or a colony of bees?

3. Or, is there any harm if there are any young larvæ in the frames given to make the nuclei?

4. About what is the right time to give to a nucleus a queen, or to a colony, after it has been made? That is, how long should the bees be queenless?

5. I have the best luck in introducing queens to bees that have been queenless for 5 days and over, but not over 10 days.

6. When worker-bees have commenced to lay in queenless colonies, what is the best way to do with them to get any use of these bees? Is there any danger in giving them to one or two colonies that are strong, without being in danger of killing the queen that I gave these bees to? Or will queenless bees given to stronger colonies kill the queens where they are shaken off?

NEBRASKA.

ANSWERS.—1. It is an unusual thing for bees to accept a queen long enough to allow her to lay, and then to kill her. Sometimes, however, they do it, and I don't know why. As a random guess, perhaps because they are not entirely satisfied with the queen, but allow her to lay long enough to give them the material from which to rear a successor.

2. Perhaps there is no difference, but if there is any difference it is safer to introduce to the weaker.

3. No.

4. It is probably just as well to put the queen in when the nucleus is first formed, but of course caged, so that she will not be liberated for a day or two.

5. Perhaps you would succeed just as well to try the Abbott plan. Put the new queen in the hive without disturbing the old one, the new queen being in a provisioned cage, and the candy covered so the bees can not get at it. After 2 days remove the old queen, and at the same time the covering from the candy so that in a day or two the queen will be liberated by the bees.

6. Break up a colony with laying workers, distributing bees and combs to other colonies. No danger to the queen unless you give so many bees from the faulty colony that they outnumber the colony to which they are given.

Air-Slacked Lime for Robber-Bees

I wish to give some experience with robber-bees among my bees, and the way I have stopped them. When I found robbing going on I closed the hive-entrance till only a single bee could pass through, and then took air-slacked lime and applied it freely at all places where robber-bees were trying to force an entrance. I applied it directly on the bees, and awaited results. I could also find the ones that were robbing.

Cantril, Iowa. LESLIE SMITH.

Light Honey-Flow

We have a light honey-flow from white and sweet clover. It began about July 20. The bees were on short rations till that time. It looks now as if we would take a little surplus, with a fair prospect of the bees going into winter quarters in good condition. It has been the worst season for queen-rearing I ever saw. ROBERT B. MCCAIN.

Oswego, Ill., July 25.

Bees Outdoing Themselves

We are in the midst of the basswood honey-flow, and bees are just outdoing themselves. We had a nice flow of white clover honey, so, with the prospects of plenty of buckwheat for the bees to work on later, we feel pretty well pleased. C. N. GREENE.

Troy, Pa., July 25.

Light Honey-Flow in Mexico

There seems to be a light boney-flow here this summer, owing to the dry weather. I have increased from 7, spring count, to 15, and all are fairly strong. One swarm issued April 8. I hived it and later moved it to a new stand. I closed the entrance 24 hours. All the combs melted down and the bees smothered. WILLIAM WINKLER.

Aldama, Mexico, July 19.

Bees Wintered Badly

I am 73 years, 6 months, and 10 days old. I have been in the bee-business over 30 years, and have taken the American Bee Journal all but one or 2 years during the entire time.

December 3, 1906, I put 52 colonies in a new stone and cement cellar under the house. On May 15 I removed them to the apiary. I had 50 colonies in the *worst* condition of any year since being in the business. I think the new cellar and buckwheat honey were responsible. I now have 63 colonies in good condition. The white honey-flow is nearly over. I have hundreds of sections partly filled. The weather is *rainy* and cool here now.

Success to the American Bee Journal.

D. R. VAN AMBURGH.

Benzonia, Mich., July 22.

The Pecos Valley Country.

It is some time since I wrote anything for the American Bee Journal. I have removed to Eddy County, New Mexico, which is in the center of the wonderful artesian belt of the famous Pecos Valley. I think this is destined to be one of the finest locations in the world for bees. Near Roswell, which is located at the upper end of the Valley, there are several bee-keepers who get large crops of honey. I am located 49 miles south of Roswell, on the Santa Fe Railroad, and this town only about 2 years old. Land here is comparatively cheap.

Roswell is about 15 years old, and land sown to alfalfa brings $60 to $100 annually from 5 cuttings, and land is worth $200 to $300 per acre. Mr. Hagerman has 700 acres in orchard, which he has refused $1,000 per acre for. Parker Earl, who was for 16 years President of the American Horticultural Society, received $15,000 from one crop of pears from a 10-acre pear-orchard. This seems like a fairy tale, but it is true. This locality has just as good land, and it is real cheap as yet.

The artesian wells are a wonder to behold—wells that all you have to do is to open the valve and the water flows at the rate of from 1500 to 4000 gallons per minute—enough to irrigate from 160 to 320 acres of land.

Men are planting hundreds of acres to alfalfa here, and one man near Dayton has 440 acres in orchard. Many have smaller orchards. Nearly all unbroken land is covered with bunches of mesquite, which grows only about one to 3 feet high, but has been in blossom ever since I came here—nearly 4 months. They bear loads of beans in pods, and I think produce lots of honey. There are almost no bees in this locality, as every one who comes here sees a chance to

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make big returns from crops, and consequently has no time to work with bees.

The land produces wonderful returns here: Alfalfa $50 to $100 per acre; Kaffir corn $30 to $50 per acre. But any one coming here should first come and investigate, and be shy of irresponsible land agents who work on 40 and 50 percent commission. For that reason I have asked the Dayton Development Co., to put an advertisement in this issue. This Company is composed of Dayton merchants, bankers, and farmers (26 in number), to help prospectors to choose land, and buy what they want at the lowest price, with only a small commission added.

The climate is very healthful, and people plow here all winter. Oats are sown in the fall, or any time in winter.

Now, for fear of being accused of booming the country, I will stop. I can't tell anything about my bees, as I brought only one colony, and they received such rough treatment on the car that they died, but I expect to get some bees in the spring.

All land must be irrigated to produce crops, as we have only about 14 inches of rainfall per year. We are only about 60 miles from the mountains, and there they have about 50 inches of rainfall, which furnishes the artesian water. A large reservoir is to be built about 12 miles above Dayton to irrigate 10,000 acres of land. Land out there is still being homesteaded, but most of it is taken up. Most people here are from the North, and Dayton has a fine school and churches, and very little drunkenness. At some future time I will tell more about bees, as I have my extractor, 40 hives, supers, several thousand sections, foundation, and I lack only the bees.

Eddy Co., N. Mex. J. E. Johnson.

Two Queens Laying in Same Hive.

I have one very strong colony of bees, and about June 20 I thought I would look through them and see if there were any sign of their swarming, and I found a queen-cell, but already hatched, so that I thought they had superseded their queen; and on July 7 my friend, J. F. Ryan, came over and we examined the hive and found both queens laying in it. This can be vouched for by Mr. Ryan. So I divided the colony into 2.

There does not seem to be much honey coming in yet; but sweet clover is just beginning to bloom. John Dutnall.

Chicago, Ill., July 15.

Bees Working Well.

I put 2 weak colonies of bees on top of 2 strong ones this season, and had success with both. One colony had wire-cloth placed over the bee-zinc for 24 hours, and then removed. The other colony had one thickness of newspaper put under the zinc and was left there to be eaten away by the bees. Both colonies are now on their own stands, and seem to be doing well. We had copious rains about a week ago. Since then we have had cool nights and warm, clear days. The bees are working well, and I think they have stored a little honey. Edwin Bevins.

Leon, Iowa, June 29.

Fine Honey-Country.

In case any of the readers of the American Bee Journal are looking for a good location for bees, the Bighorn basin in Wyoming can not be beaten. Texas and California are not in it. Bees winter nicely here out-doors in any kind of a hive. They store honey here from wild flowers and alfalfa. We brought the first bees in this vicinity 4 years ago this spring. There was no alfalfa here then, but they filled their hives chuck-full of an amber-colored, very clear boney, with a very superior flavor. I kept bees in California for 15 years, but California is a poor honey country beside this. There is no bee-moth here, and if there is anything here in the insect line to bother bees I have not found it so far. For quality and quantity the honey crop beats anything I have seen yet. I have no ax to grind. I am simply telling this for the benefit of others. I well know what a poor living a lot of bees make for a bee-keeper that is not in a good honey country, and I well know what a nuisance bee-moths, ants, and other insects are to a bee-keeper. There is no need here of setting a bee-hive on 4 stakes driven into the ground, in an irrigating ditch, to keep the ants out of it, as I have seen in California. I have no time here to attend to bees. I put on large supers in the spring of the year. The super is 24 inches long, 15 inches wide, and 12 inches deep. In the fall and winter, and sometimes in the spring, I lift them off, and that is all I do to them. I have kept bees in Oregon, Washington, California, Missouri and Ohio, but here is the place for bee-keepers to "pitch their tents."

J. D. Kaufman.

Bighorn Co., Wyo., July 15.

Bees Hauling Out Drones.

My bees have not swarmed much this season, nor have they stored any boney to speak of. They spend most of their time hauling out drones. There will be no white clover honey to speak of, and but little basswood. I have put in an acre of buckwheat for fall feed. E. E. Kennicott.

Glenview, Ill., July 7.

Hope for a Fair Crop.

Notwithstanding the cold, backward spring, for the last 4 weeks the bees have done a fine business. We hope for a fair crop of honey yet. H. A. Doty.

Central Lake, Mich., July 11.

Bees Storing in Supers.

Bees are doing fine work now. The weather is favorable and they are storing some in the supers, and just commencing to swarm.

(Rev.) J. W. Stine.

Durham, Iowa, July 12.

Poor Spring for Bees.

The last was a very poor spring for bees in this locality. I lost 28 colonies through winter and spring dysentery, while in the cellar. That seems to be the general complaint in this vicinity. What are left are doing very well now. Ursom White.

Kimball, Minn., July 10.

He has Bee-Fever.

I started in the spring with 8 colonies. I divided 3 and increased to 11; I took 5 out of trees, one out of a porch, and one out of a chimney; bought one, and transferred 2 for the bees. I now have 21 colonies. I have the bee-fever, my wife says.

Rufus Thompson.

Albany, Oreg., July 3.

Not a big Crop Expected.

We have had a very bad spring for bees. I lost none in wintering, but lost several colonies in April on account of the bad, cold weather. I have 45 colonies now, well-filled below, and they are commencing to work in the supers. Basswood will be late this year. It will be in bloom in about a week. We may get some honey yet, but I do not look for a big crop. I will report later.

Wm. Cleary.

Algona, Iowa, July 8.

Nucleus Method of Increase.

Some years ago I read from the pen of G. M. Doolittle the same method of increase given by him on page 537, and started out to try it. I do not run for comb honey, so did not have any shipping-cases, but as I always save all boxes that come in my way, especially those made of thin lumber, I went to this pile and found one about 8 or 9 inches square at the end, and about 15 inches long, that I thought would do, and started in to make more out of other boxes. When I got the third one completed I had no more screen-cloth at hand. Then for a funnel (I was not near a tin-shop, nor had I any tin on hand), I again went to the pile of boxes and found 2 boards, ¼-inch thick and 9 or 10 inches by 24. These with a couple more ⅝-inch thick and 6 inches wide at the upper end, I tapered down until when nailed together they made quite a good funnel. For a tube I took a 3-pound fruit-can body, cut it open, and riveted it in the proper shape to fit the hole in the nucleus-box at one end, and covered the opening in the funnel at the other, and nailed it on to the funnel.

Armed with these I went to the colonies where the bees were to spare, one after another, until I had a good, strong swarm in the box. I soon had all 3 full. Then came waiting, for I did not have material at hand for more boxes. It occurred to me that the bees could just as well remain confined until they realized their hopeless queenlessness, in a hive where I wanted them to remain, if I shaded them well, as in any place else.

So I now go around in the morning and ascertain how many queens I have out, and immediately set about preparing a hive for each queen, as follows:

I place in the hive from 2 to 4 or 5 frames of honey, as there may be much or little to come in yet; and fill out with frames of full sheets of comb; set the hive where I want it to remain; close up the entrance bee-tight; on top of this I place an empty hive, over which I put a frame of screen-cloth so that no bee can get in or out; on top of this I lay the cover for the present. Then by 9 or 10 o'clock, when most of the field-bees are out, I go around with the nucleus-box and funnel to hives that can spare the bees and take out until I have a good, strong colony, being careful not to get a queen; carry it to the prepared hive; uncover it, being careful to lay the screen cover so that I can pick it up quickly; loosen the fastenings of the door of the nucleus-box and hold it shut with my hand while I give it a little jar on the ground to settle the bees to the side opposite the door; and, before they have had time to recover themselves, I dump them into the hive and cover up quickly with the screen cover; shade well with boards or green brush. So I proceed until all my hives are loaded, using only one nucleus-box.

I leave them in this shape from 4 to 6 hours, when they are ready to accept any queen. Just before it is too dark to see, I go around and drop in a queen, and leave them confined until the evening of the third day. Then I open the entrance. I keep watch of them pretty closely until I find the queen laying. Sometimes the queen fails to get back from her mating-trip. In such cases I take steps to get them a queen as quickly as possible.

I now make what increase I want in the above manner in preference to any other. My main surplus flow begins with sage from April 20 to May 1, and for about 6 weeks I get white honey—I think the finest ever. Up to the beginning of this flow I do all I can to increase my bees without increasing colonies, and if all has gone well I have booming colonies.

About the middle of June darker and off-flavored honey begins to make its appearance. I watch the flora closely, and when I see this about ready to begin, I extract all white honey. Then on the darker and not so finely flavored honey, I make increase as above, governing the increase by the amount of honey in sight. These colonies are all beaded by young queens for the next season, which tends materially to curtail swarming, and in many other ways gives the apiarist control of the bees. A. J. Burns.

San Diego Co., Calif., June 28.

Booming on Clover.

Bees are just booming on clover, with very little swarming. Some of my colonies have stored nearly 50 pounds of nice white clover comb honey. E. M. Lawrence.

Mayfield, N. Y., July 4.

The Season So Far—Bee-Keeping Children.

Our apiary of about 90 colonies came out of winter quarters here at Bridgeport, in good condition. We had good weather in March and then followed the long, cold wet period that lasted nearly all through April and May. Many apiaries in Wisconsin report very severe losses during this period, but our loss here was practically nothing. We attribute this largely to our sheltered position rather than to management. Our hives were regular single-walled hives, not protected by outside wrapping. We fed outside when the weather became warm enough for bees to fly, but, in spite of all, most of the hives were very destitute of stores at the coming of white clover.

Since then there has been abundance of bloom, consisting of white clover and raspberries mostly, but too much rain has retarded work to a considerable extent. We gave super-room very promptly, giving strong colonies two 8-frame Langstroth stories for a brood-chamber, and have had, to date (July 20th), only 6 swarms to hive at this yard.

Now I will tell of something better than bees: My daughter "Amy," 17 years old, has

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entire charge of our yard of 60 colonies at Monroe, and is doing fine. The losses in that yard were light also, but a good many were weakened badly by the adverse conditions. However, they must have built up nicely as Amy reports that she has about all the surplus combs on, and will begin to extract this week.

Amy and her mother are at present occupying our Monroe home, but the mother can not go near the apiary. A bee-sting poisons her so that it is a serious matter.

We want improved stock in our yards, but it is also a very important and blessed thing to train a son or daughter to be a practical bee-keeper, while yet in their teens. I have now a son and daughter, each of whom are competent to handle an apiary. My son has been away to school and has had many chances to let other things crowd out this work, but it was very pleasant to me to hear him say during the past year that he "loved the bees." Taking into consideration the stings and trying incidents that will occur at times, it is a delicate task to train a boy or girl in such a way that they will be ready, on reaching early manhood or womanhood, to volunteer the above confession. But I know this: Every father who really loves bee-culture longs to note a like feeling in the heart of his child; and when he does recognize it he values it above all the mere profit that the bees may furnish in dollars and cents.

I wish that our bee-keepers may have success with their bees, but more than all, I wish them success with their children.

HARRY LATHROP.

Crawford Co., Wis., July 20.

Average Yield from Buckwheat per Acre.

In this locality, bees, like everything else, are late. I had my first swarm June 29. For the past 2 weeks they have just about got their living, and now that white and alsike clovers are beginning to bloom, I am hoping for something more. Eight colonies out of 52, in my apiary, succumbed to the cold, backward spring.

That story of M. V. Facey's (page 534) is almost too big to swallow. Seven-hundred-fifty to 800 pounds of honey from an acre of buckwheat nearly equals the amount—in pounds—of seed produced; 900 pounds of seed per acre denotes rather better than an average yield in this locality, which is not so very far from Preston.

I can swallow about as many "Buckwheat Cakes and Honey" as the next one, but when it comes to "holting" 800 pounds of honey from an acre of buckwheat, I'll stand aside and let Mr. Facey have the floor. His whole article (which I have read in the "Farmer"), gives an optimistic view of bee-keeping for farmers that the facts hardly substantiate. For the past 10 years, until last season, my bees had not gathered 50 pounds of buckwheat honey, all told, and there has been plenty of buckwheat within reach, too. Perhaps it's the "climate" (?) A. F. FOOTE.

Mitchell Co., Iowa, July 3.

Ten-Frame and Heddon Hives.

I am 73 years of age, and have kept bees over 40 years with varying success, as a side-line to farming and fruit-growing. I keep my apiary down to about 20 colonies—sometimes more and sometimes less—by smothering them, and extracting honey. Many swarms went to the woods last year, as I was obliged to "keep bach" part of the time, and I could not be at the house watching for new swarms, and out in the field at work, at the same time; consequently I had only 11 colonies, mostly Italians, in the fall. I lost 4 of them in the winter and one queen which wintered proved to be a drone-layer, so I killed her and gave the few bees left in the hive a queen-cell a week ago, leaving 6 good colonies.

The actions of my bees this season have been on a par with the weather—perfectly idiotic. The first 3 colonies to swarm issued 2 times each, returned both times, and swarmed at the end of 10 days, accompanied by young queens. I cut out all the queen-cells but one in each hive. The 4th swarm was led by a well-behaved queen, and clustered. I hived them all right. The 5th swarm I hived twice in 2 days on frames filled with foundation, but they absconded to the woods, not stopping to say good-bye, nor anything else. The 6th colony sent out a swarm yesterday, which returned without clustering, and it issued again today and returned each time. It will likely be 10 days now before they issue again, as they have probably lost their queen.

I use mostly 10-frame hives, which take the Hoffman frame. I also use the Heddon hive, which is all right until you want to cut out queen-cells; then I am sure to miss some of them, as they seldom are all built between the cases of shallow frames. To make a sure thing you must take out each frame and examine it separately, which is a nuisance. I much prefer the 10-frame hive on that account. I am thinking of discarding the Heddon hive as I lose too many afterswarms from it.

I find the American Bee Journal very interesting and instructive, and like it very much.

Highland, Mich., June 23. WM. MARTIN.

MISCELLANEOUS NEWS ITEMS

(Continued from page 617)

Wisconsin State Inspector's Report

We have received the following from Mr. N. E. France, of Platteville, Wis., who has been Inspector of Apiaries for Wisconsin for 10 years, making him the oldest in point of service:

April and May, 1907, have been continuously cold and wet, keeping the bees in the hives, causing diarrhea in many hives, and brood-rearing stopped. Spring losses will be more than in the winter past. Those that have taken my advice and protected each hive with building paper as soon as taken from cellar have much stronger colonies of bees. When I began this work, 10 years ago, many apiaries were diseased. But few bee-keepers gave their bees much attention. Scarcely any one knew anything about bee-diseases, and but three in Wisconsin had cured diseased bees. Where disease had killed or weakened the colonies of bees so that no honey harvest was obtained, it was simply called "bad luck." The bee-keeper saved all the diseased combs for future use when swarms increased next year.

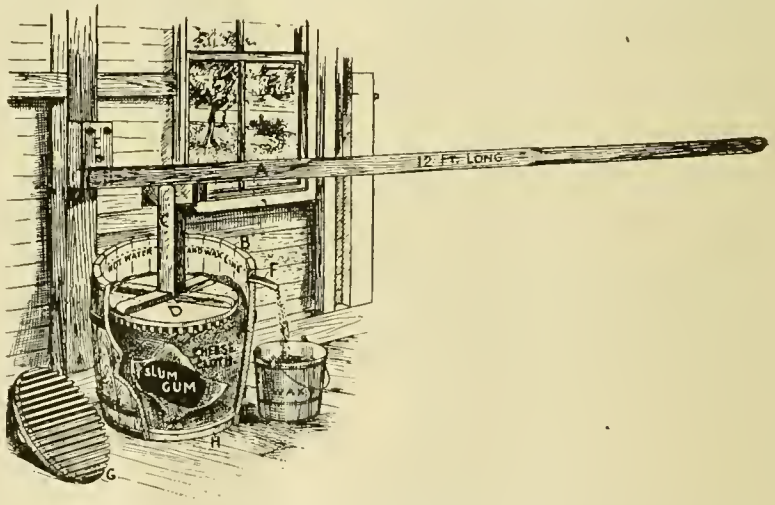
Diseased hives, old combs full of diseased honey were left exposed where bees several miles away were taking the disease to their hives.

The crooked combs in hive-bodies, also in sections of comb honey, showed the need of better methods. Many thought that if bees were inspected and disease found among them, I would burn all their bees and hives, also present them a big bill of expenses. I was not called for, nor welcome to many apiaries. Several times I was ordered from the premises, and even threats made if I hesitated. In each case, before leaving, I explained my duty, the law, how themselves to know the several stages of bee-diseases and treatment; saving all hives, bees and wax. But few were prepared to save much wax from old combs. Several years I took with me the best wax-press on the market (German wax-press), and helped the bee-keeper save his wax from diseased combs.

Recently the Hershisher wax-press has come on the market, which saves a greater portion of the wax, and is much cleaner and also safer to render diseased combs, so that this season I take on with me where needed in rendering diseased combs, saving the wax worth 30 cents per pound, so the wax pays all expenses of treating colonies. The greater portion of Wisconsin bees are now healthy, better methods of handling are in use, and all are pleased to have me call.

I have organized several local bee-keepers' associations in Wisconsin for mutual help and coöperation. It has improved Wisconsin bee-keeping in those localities greatly. Allow an illustration: In 1906, the St. Croix Valley Association bought their supplies together, ($4000), thus saving much to each member; and also 7 carloads of honey, (5 carloads to one buyer), all cash at car door. They now produce more honey and in much better marketable shape. All are well pleased.

METHODS OF TREATING DISEASED BEES. I have tried many methods of treat-



HOT-WATER WAX-PRESS

A, lever 12 feet long; B, half-barrel; C, standard; D, cleated head or follower; E, block bolted to bee-house; F, spout for wax when several pressings are wanted; G, underside of upper head, showing cleats, which should also be in like manner on bottom and inner side of barrel, so liquid wax can easily escape to surface; H, plank under barrel to prevent botton of barrel being pressed out.

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ment of diseased bees. All drug methods only check for a time. Baldridge method often a success, but sometimes fails where full combs are used; but the so-called "McEvoy method," if carefully followed, never fails.

STATE LAWS.

Wisconsin was first to have a State Inspector of Apiaries. Others seeing the benefit of this law have secured a similar one. Now California, Colorado, Connecticut, Idaho, Michigan, Minnesota, Missouri, Nebraska, New Mexico, New York, Ohio, Texas, Utah, Washington, and Canada, have either County or State bee-inspectors.

BLACK BROOD OR EUROPEAN FOUL BROOD.

For a few years this disease has been serious in New York, destroying entire apiary after apiary, and had it not been for the careful work of the four New York Inspectors, all New York bees would have become extinct, and also in other States.

In 1906, Dr. Phillips, of the U. S. Department of Agriculture, in charge of Apicultural Investigations, Washington, D. C., after carefully investigating this fatal disease in New York, went to California, where, with J. M. Rankin, of the Bureau of Entomology, located at Chico, Calif., found the same disease in localities there, in some places quite serious. From there Dr. Phillips investigated and found it in Illinois, Michigan and in Indiana in local spots. Serious wherever found.

CONVENTION CALLED.

While making these investigations, Dr. Phillips, by agreement, met August 3, 1906, in Milwaukee, the Michigan and Wisconsin State Inspectors, and, after a day's convention, decided to go together at once to Michigan where the several stages of this disease could be seen. August 4-5-6, the above committee of three inspected several apiaries diseased with Black Brood or European Foul Brood. One apiary of once 300 colonies had only 12 diseased colonies alive; another of 130 colonies with 100 diseased. It was decided that a National convention of all State and County Inspectors was much needed, and November 12, at San Antonio, Texas, was selected, it being the day following the convention of the National Bee-Keepers' Association. This meeting was a valuable one. About 50 bee-keepers, inspectors from 14 states, Dr. Phillips, and Dr. White, were present.

N. E. FRANCE,
Inspector of Apiaries.

Platteville, Wis., May 28, 1907.

Size of Cells in Comb Foundation

William Findlay, of Basco, Ill., has been doing some measuring and comparing, and writes as follows:

"In cutting the comb out of some old box-hives, that had been occupied by common black bees, I was surprised to find such superbly built combs in one of the hives, uniformity of cells and but little drone-comb, some 170 cells being counted. Sheets of "Light brood" foundation were procured from three manufacturers—A. I. Root Co., Dadant & Sons, and Gus Dittmer. A comparison of the different makes was made. The A. I. Root sheet, contained 50 cells to 10¼ inches; Dadant, 49½ to 10¼ inches; Dittmer, 50 to 10 5-16 inches. A comparison was made with the worker-comb of the box-hives, and a Root sheet of foundation. A horizontal range of cells, counting from 24 to 48, were compared, the comparison, as to count and distance, often agreeing; some of the sheets of natural-built comb show an excess of one cell, in a count of 30, compared with the foundation; another sheet lacked one cell, in a count of 34 cells, in comparison with the foundation.

It will be noted that there is a slight variation in the size of natural-built worker-brood cells; this is caused by the bees starting to build comb at separate points; where the separate points are united, the cells often average a trifle larger in diameter than the average; on the other hand, the texture of the cell-walls of comb built by black bees is somewhat lighter than that built by Italians.

Sometimes we hear people talk of "the little black bees," and "the small black bees," implying that the black bee is smaller than the Italian. If this be a fact, are we going to cause our Italians to degenerate, by forcing them to build comb, by furnishing them foundation that has too small a cell-base? To arrive at a definite conclusion, some experimenting is required to be done. Select a colony of your best "long-tongued hustlers," remove a comb from the center of the brood-nest, and insert in its place an empty frame; a plain wax-line may be used as a comb-guide.

The Weed-process foundation that is sent out this season is a shade smaller in cell-capacity than that manufactured 5 and 6 years ago, the comparison being, new 46, to 43 cells of the old.

WILLIAM FINDLAY.

The point made by Mr. Findlay seems to be that if Italians are larger than blacks, the comb for Italians should be larger, whereas his counting shows the comb-foundation put upon the market only large enough for blacks. The whole matter is one worthy of careful consideration. It is probably safe to say that anything that would diminish the size of Italian bees is not desirable.

The count of the natural comb showed considerable variation. It is just possible that Mr. Findlay did not take into account the difference in the three diameters of a cell, and he may not always have measured in the same direction. Upon this point the following Stray Straw from Gleanings, page 821, is pertinent:

"Bees build their cells not exact hexagons, but with the transverse diameter greater than the two oblique diameters. Following this, Rietsche makes foundation with cells having a transverse diameter of 5.6 milimeters (.220452 of an inch, or 4.5357 cells to the inch), and oblique diameters of 5.45 millimeters.—*Apiculteur*, p. 113."

That gives 4.5357 cells to the inch, measuring transversely, as against 4.6606 to the inch, measuring obliquely. The measurements of foundation made by Mr. Findlay give an average of about 4.849 cells to the inch. That is about .188 of a cell in an inch more than in the Rietsche foundation measured obliquely, and about .313 more than in the Rietsche measured transversely.

But is the Rietsche cell patterned after nature? Another Stray Straw on the same page says:

"Italians, says R. Pinot, *Apiculteur*, page 113, build cells having a mean diameter of 5.5 millimeters, while the natives reach only 5.2 millimeters."

According to that the Italians build an average of 4.6182 cells to the inch. The Rietsche average is 4.6189, practically the same as that built by the bees.

It is worth while to notice the other point in the last quotation, the difference of .3 millimeters between the cells of blacks and Italians. The mean diameter of the blacks, 5.2 millimeters, is equivalent to 4.8864 cells to the inch.

If there has been no mistake in the data, and no mistake in the figuring, it looks as if the cells of American comb foundation are unnecessarily large for blacks, and a trifle too small for Italians.

After sending the letter above, Mr. Findlay sent the following:

After the above-mentioned circular letter was sent out, Dr. C.C. Miller's "Stray Straws" came to hand, with two notes, as to the transverse diameter of worker-bee cells. The data there stated, for "natives," supposed to be the common black bee, is a mean diameter of 5.2 millimeters to the cell. This is in very close agreement with the data arrived at by myself: Calling the (transverse) diameter, of common black bee worker-cells, 5.2 millimeters, will give us 50½ cells to 10¼ inches.

COMPARISON OF DATA

The A. I. Root Co., Foundation	50 cells to 10¼ in.	4.877	cells to inch
Dadant & Sons, Foundation	49½ " "	4.828	"
Gus. Dittmer, Foundation	50 " 10 5-16 in	4.849	"
Black Bee Worker-Comb	50½ " 10¼ in.	4.926	"
Rietsche Foundation, ("S. S.")	46.596 " "	4.535	"

This comparison goes to show, that the popular brands of comb-foundation, as now manufactured, would be suited for neglected common black bees; for select-bred, it would be a shade small in cell capacity.

The writer has no natural-built comb, built by improved Italians, on hand, nor has he any colonies that are in favorable condition to build any at the present time. Some years ago we heard consid-

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erable about "tongue-reach." Those that are rearing this strain of Italians, should give them a free swing at comb-building, and see what they can do at diameter of cell-reach; the two qualities may be somewhat related.

WILLIAM FINDLAY.

A still later Stray Straw (Gleanings, page 887) is as follows:

"Abbe Pincot (*L'Apiculteur*, 52) says that larger cells give larger workers, and that cells measuring 4.57 to the inch are the largest that Italians accept for worker-brood."

Evidently there is a mistake somewhere, for the Rietsche foundation has a larger cell (4.535 to the inch) than Abbe Pincot's limit of 4.57 to the inch. At any rate, there is nothing unfair in asking the question whether it might not be an improvement to have larger cells in foundation, especially as one of the Stray Straws to which Mr. Findlay refers says that natural comb built by Italians has a cell diameter of 5.5 millimeters, or 4.618 cells to the inch, while none of the foundation gives a cell larger than 4.828 to the inch.

The Lake Geneva Fair

On July 26 and 27 was held at Geneva Lake, the Fair in the interest of the Lake Geneva Fresh Air Fund Association, an organization in which not only the people in and around Lake Geneva, Wis., are interested, but especially the many wealthy Chicagoans and others who have their summer houses at that most beautiful resort.

The Editor of the American Bee Journal was invited to judge the apiarian exhibit, as on two former occasions, with the following result:

Case of 24 sections of white comb honey, 1st premium (blue ribbon) L. R. Buell; 2d (red ribbon), Miss E. V. Rumsey.

One-frame nucleus of Italian bees, 1st, Franz W. Fischer.

Beeswax, 1st, L. R. Buell.

Mrs. H. C. Buell, a lady bee-keeper living at Hebron, Ill., was superintendent of the bee and honey department.

Excursion via Nickel Plate Road

to Boston and return, $21.00, Aug. 6, 10, 20, 24, Sept. 10, 14, 24, 28. Limit 30 days from date of sale. Meals in Dining Cars 35c to $1.00. Stopovers. Ticket office, 107 Adams St., Chicago. 'Phones, Central 2057 and 6172. La Salle St. Station, on Elevated R. R. Loop.

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6Etf W. J. McCARTY, Emmetsburg, Iowa.

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QUEENS OF

Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the BEE-KEEPERS' REVIEW, Flint, Mich., says: "As workers, I have never seen them equaled. They seem pussessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen."

My queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested queens, 75c each; six, $4; doz., $7.50. Select, untested, $1.00 each; six, $5.00; doz., $9.00.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address

J. P. MOORE, Queen-Breeder, Rt. 1, Morgan, Ky.

Mention Bee Journal when writing.

ITALIAN QUEENS

Fine young prolific 3 and 5 banded Italian Queens, by return mail. Untested only 60c, or $6.50 a dozen. Tested, 75c or $8 a dozen Extra fine queen, $1.

J. L. Fajen, ALMA, MO.

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A NEW BEE-SUPPLY HOUSE

AT LITTLE ROCK, ARK.

I am prepared to furnish you the best of bee-supplies, manufactured by The A. I. Root Co. Let me send you my catalog of bee-keepers' supplies. Also have for sale the very best strain Italian queens and nuclei or full colonies. Satisfaction guaranteed.

W. J. LITTLEFIELD.

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FOR SALE $1 to $3 a pair. Registered Homing Pigeons; Big Squab Breeders. Also Angora and Belgian Hares; Fancy experiment station; crosses in all colors. Mail orders filled.

HULBERT GLEN ELLYN, ILL.

Mention Bee Journal when writing.

Raspberry Honey

I have produced a crop of extracted honey from the wild, red raspberry of Northern Michigan. It would be a very easy matter to send this entire crop, in a lump, to some dealer, but I prefer to give each of my friends an opportunity to supply his table with this truly delicious honey—a honey with a flavor all its own—a flavor that smacks of the wild raspberry of the forests. The honey is put up in bright, new, shiny, 60-lb. cans, two in a case, and is offered at ten cents a pound, or $12.00 for a case of two cans. Perhaps some will think that this is a high price, but we must take into consideration the great loss of bees last winter and spring, the almost total failure of the white clover honey crop, as well as that of California, together with the upward tendency in the price of nearly all commodities. Remember, too, that this is not an ordinary honey—it is **raspberry** honey; and, besides this, it has been left on the hive until it was all sealed over and thoroughly ripened, and is as far superior to ordinary honey as ripe fruit is more delicious than green. If you prefer to taste the honey before ordering, drop me a postal, and I'll mail you a generous sample—enough so that the neighbors, too, can have a taste, and perhaps will wish to join in ordering a case, if you do not care for that much yourself. 28-Atf

W. Z. HUTCHINSON, Flint, Mich.

Mention Bee Journal when writing.

BEE-BOOKS

Sent postpaid by GEORGE W. YORK & CO., 118 W. Jackson, Chicago, Ill.

Advanced Bee-Culture. Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and helpful writer. You should read his book; 330 pages; bound in cloth, and beautifully illustrated. Price, $1.20.

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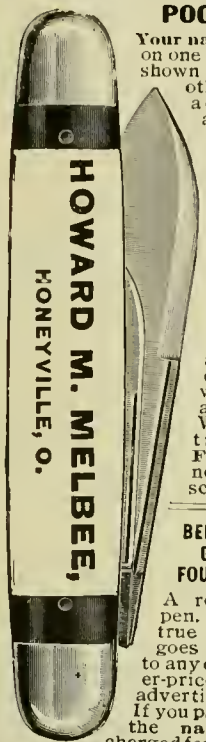

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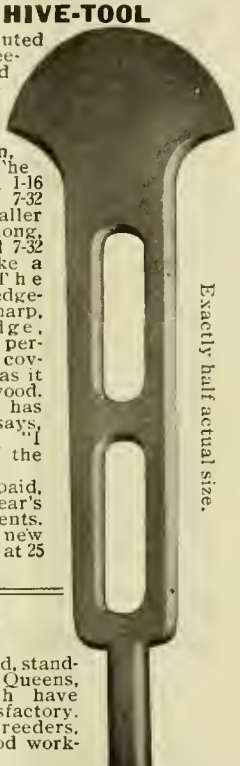

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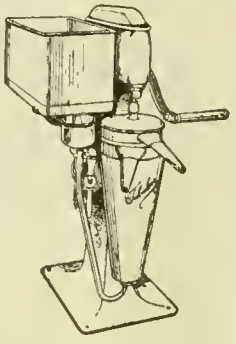

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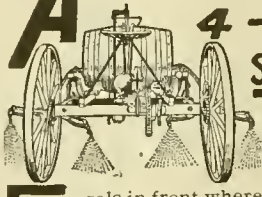

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Tested	1.50	8 00	15.00	1,25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
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20A13t Weissbach b. Pulsnitz, i. Sa., Germany.

Honey and Beeswax

CHICAGO, July 8.—Very little honey of the yield of 1907 has come on this market. What there has in the way of white comb has sold readily at 16c per pound. There is no call for other grades at the present time. Very little demand for extracted, and a tendency not to take it at over 7c for the best grades of white. Beeswax continues to sell well at 32c. R. A. BURNETT & Co.

PHILADELPHIA, June 25.—This hot weather has come on us so suddenly that it has stopped the sale of comb honey entirely, and extracted honey has been moving very slowly the last 10 days. We quote: Extracted honey, dark, in barrels, 6 to 7c; light extracted honey, in barrels, 7 to 8c; in 60-lb. cans, according to quality and quantity. Beeswax, 30c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

TOLEDO, July 9.—Owing to the scarceness of the honey crop, and there being none in the market, there is practically no price to be made on it. However, fancy white comb honey, new crop, would bring 15c to 16c in a retail way; No. 1, 14c to 15c. Extracted, white clover, in barrels, would probably bring 6c to 6½c; amber, 5 to 5½c. Beeswax is plentiful at 26c to 28c.

THE GRIGGS BROS. & NICHOLS CO.

DENVER, July 8.—Old comb honey, or last season's crop of comb honey, has been entirely cleaned up in this market for several weeks and new crop has not arrived yet. There is no change in the situation of extracted honey, and we have a good supply to meet the local demand. Our prices are 6¾ to 7½ for light amber, and 7½ to 8½ for white, per pound. We pay from 24 to 28 cents for clean yellow beeswax delivered here.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION.

NEW YORK, July 8.—A fair demand for white comb honey, with very little supply; fancy stock selling at 15 to 16c, No. 1 at 13 to 14c, No. 2 at 12c. No demand whatsoever for dark honey at this time of the year. Good demand for nearly all

American Bee Journal

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—The—
American Bee-Keeper for 1907

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15A26t Box 340. Norwalk, Ohio.

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THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.
9Atf Please mention the Bee Journal.

grades of extracted honey, and we quote California white at 8 to 8½c, light amber at 7 to 7½c, amber at 6½c per pound. New crop from the South brings from 58 to 65c per gallon in barrels, according to quality; strictly fancy will bring as high as 70 to 75c per gallon. The market on the Pacific Coast seems to be unsettled, and prices fluctuate more or less. West India honey is arriving in fair quantities right along, and sells at from 58 to 62c per gallon. Beeswax is somewhat weaker, although choice stock still finds ready sale at 30 to 31c. HILDRETH & SEGELKEN.

CINCINNATI, July 8.—The market on fancy comb honey and white clover extracted is entirely exhausted. We quote light amber in barrels at 5¾c and 6c; in cans 1c per lb. higher. We are selling beeswax at 32c per lb. Market dull.
C. H. W. WEBER.

INDIANAPOLIS, July 22.—Fancy white comb honey sells to the retail grocery trade in lots of 1 to 10 cases at 17½ to 18 cents. Best extracted honey in 5-gallon cans sells for 9½ to 10 cents. Other grades are not yet on our market, although I have seen some foreign extracted honey offered at slightly lower prices. Beeswax sells here at $35 per 100 pounds. WALTER S. POUDER.

KANSAS CITY, June 28.—We have received a few shipments of new honey which sold on arrival at $3.50 for 24-section cases; market is almost bare of comb honey, and shipments would sell readily. We quote: No. 1 white comb, in 24-section cases, $3.50; No. 2 white and amber comb, $2.75 to $3.00; white extracted, 8c; amber, 7c. Beeswax, 25 to 30c. C. C. CLEMONS & Co.

CINCINNATI, July 3.—The demand for extracted honey does not come up to expectations, which is probably due to the lateness of the season. Quotations range about the same as published recently. Amber in barrels at 5½c to 6¾c, according to quality. Fancy white extracted honey in crates of two 60-lb. cans, at 9c. As yet, there is no new comb honey on the market. We are paying 28c, delivered here, for choice yellow beeswax free from dirt. THE FRED W. MUTH CO.

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47 TH YEAR

No 29

AMERICAN BEE JOURNAL

SEPTEMBER, - 1907

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

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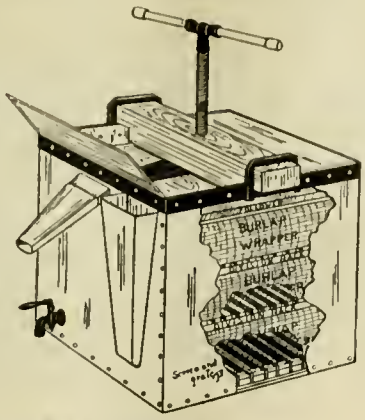

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American Bee Journal

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The A. I. Root Company, Medina, Ohio

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Yours very truly,
(Signed) John H. Bamberger.

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GEORGE W. YORK, Editor | CHICAGO, ILL., SEPTEMBER, 1907 | Vol. XLVII—No. 29

Backward Season General

Reports from different parts of the world seem to show that almost everywhere cold and wet have delayed the season. One result has been loss of colonies from starvation where the owners have not been thoughtful enough to replace stores used up by the unusually long spring. The editor of the Irish Bee Journal says: "In our own apiary, feeding was continued daily up to July 9, when the rain stopped."

Where colonies were kept supplied with stores, bees seemed to develop in strength wonderfully, in spite of the cold, and in some places at least, the spring running into summer did not seem to have such a very bad effect, for it merely postponed the time of blooming. In Northern Illinois June and July are par excellence the months of white-clover bloom generally. This year there was more clover bloom in August than in June, if, indeed, not more than in July.

Next spring may not be so late as the past one, but it is likely to be late enough, and this is a good place to repeat the advice to store up a number of combs of sealed honey to be used next spring wherever they will do the most good.

Strengthening Weak Colonies

If one has a greater or less number of weak colonies on hand, the manner in which they are to be strengthened depends upon circumstances. Whatever the plan taken, the idea should be to have each colony so strengthened or united that it shall have enough bees to cover 5 or 6 combs. A colony with 3 frames of bees may be united with another having 2 or 3 frames of bees; understanding by a frame of bees enough bees to cover well a brood-frame, or brood-comb. Three colonies having 2 frames of bees each may be united into a single colony. If one should have several colonies of 4 frames each, then one or more of them can be broken up, and one or 2 frames given to each of the others. If, fortunately, there is only a single weakling, its bees may be given to one or more of the weaker of the full colonies. These will be just so much the stronger, whereas, if the weakling is left it will be practically worthless.

Extra Combs of Honey for Next Spring

This subject may have been mentioned times enough so that many may be excused from reading this item. But its great importance for the many new readers is a sufficient excuse for mentioning the subject again.

Unwarned upon the subject, the beginner who has an early flow of light honey and a late flow of dark honey is likely to get all of the fall honey as surplus, except what the bees store in the brood-chamber. This last, if it be not exhausted before, is pretty certain to be all used up at the time the white-honey harvest begins the next season. Of course, the brood does not entirely fill all of the cells in the brood-chamber, and the vacant cells will be filled with several pounds of white honey. Now if said beginner had had extra combs of fall honey to give to the bees in the spring, this first white honey, instead of going into the brood-combs, could just as well have gone into the surplus apartment. It will be seen that it is a plain question as to whether so many pounds for the market shall be light or dark.

Nor is this all the difference in the case. A colony in the spring will not rear as much brood with a meager supply as it will when abundant stores are present. The beginner is likely to think, "So long as the bees are not allowed to run out of stores, I don't see why they'll not rear as much brood with a half-pound ahead as if they had 10 pounds in sight." Well, they'll not; no matter how they may reason about it, they *seem* to know that when they have a big lot of stores in sight they can go into brood-rearing on a large scale.

So when the fall flow begins, see that a fair share of it is in sealed brood-combs ready for the next spring, as well as to meet any emergency in the fall. For 8-frame hives 2 or 3 such combs for each colony in the spring will be none too many. For 10-frame hives, a less quantity may or may not be needed.

Wintering Reserve Queens

About this time of year the question is often raised whether one may not keep over extra queens, ready to be given in the spring to any colonies that may have become queenless. No way seems to have come into general favor that differs greatly from keeping each queen in a weak colony. Considerable can be gained, however, by keeping 2 nuclei in a hive. Separate the hive into two compartments by means of a division-board ¼ to ⅜-inch thick, and be sure that it is bee-tight. Let the brood-nest of each nucleus come close against this division-board. The bees of each nucleus will cluster close against this partition, forming what seems to be one globular mass, with the partition thrust between them.

In the spring, if one of the queens is needed elsewhere, it can be taken, and the 2 nuclei united into a full colony. If there is no need to take either queen away, let the nuclei build up until too large for their narrow quar-

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ters. Separately they would make very slow work at building up in early spring; but a surprising difference will be seen if they are allowed to remain together, thus furnishing mutual heat. When either nucleus becomes crowded, each one can have a full hive to itself.

This plan may be varied by having the partition to one side of the hive instead of in the middle. The smaller compartment may be large enough to contain a 2-frame nucleus, and into the larger compartment may be crowded a full colony.

Why Do Bees Swarm?

E. W. Diefendorf discusses this question in the Bee-Keepers' Review, and gives—not at all in a dogmatic, but in a sort of tentative way—as a possible answer, that the queen becomes tired or exhausted. He gives some good arguments in favor of such view: A queen reared at the opening of the swarming season is not likely to come off with a swarm during that season; a queen can not become exhausted in a nucleus, and he has never known such a one to swarm; in Dr. Miller's foundation treatment the queen is allowed a rest, etc.

Abuse of Smoke on Bees

Smoke is a good thing, but it may be used so as to do harm. To quiet bees it is not necessary to deluge them with smoke until they boil out all over the hive. A little, at first, and a little more afterward if they need it, but only as they need it.

But there is another way in which smoke may become an abuse that sometimes is not thought of. It is when taking surplus honey from the bees. A sufficient amount of smoke will entirely rid of bees the sections or extracting combs, but the amount required is generally so great that the flavor of the honey will be badly injured. Some may think that the smoke will be evaporated in a little while. Such persons should remember the enduring flavor of smoke in smoked hams. The flavor of smoke may be relished in hams, but it is very bad in honey.

Improvement in Introducing Queens

If the queen of a colony be removed and a strange queen, at the same opening of the hive, be placed upon the combs, one may confidently expect the bees promptly to seize the intruder and ball her till she is dead. Instead of putting her loose on the combs, if she be caged in the hive for 3 or 4 days, and then set free upon the combs, she may expect a kindly reception. That kindly reception is made more sure if she be allowed to walk out of the cage quietly at a time when there has been no disturbance by the opening of the hive. To this end a passage filled with bee-candy is provided, so that the bees may quietly release the queen, but they will do this generally inside of 24 hours, which is too short a time for best results. The Abbott plan, leaving the queen caged in the hive 48 hours, then removing the old queen and at the same time giving the bees access to the candy, works well. To avoid the trouble of opening the hive a second time, use has been made of a piece of cardboard over the candy, which the bees must gnaw away before getting at the candy, thus prolonging the time of imprisonment.

Dr. Miller reports a plan he is trying, which he thinks may be an improvement. Take a splint of wood 1-16 inch square and a little longer than the tube of candy, and thrust it through the center of the candy. That's all; the bees do the rest, taking about 3 days to liberate the queen.

It will be well if others who try the plan repeat what success or failure they meet.

Saltpeter for Lighting Smokers

Much time is lost one time and another in blowing a smoker to get the fire started. One of the best lighters is a piece of cotton rag lightly saturated with saltpeter. If heavily saturated, the rag burns up too quickly, almost like an explosion, and the fuel has not time to be lighted. A pound of saltpeter to 2 gallons of water is a sufficiently strong solution in which to soak the rags. Let them be thoroughly wet through, wring or drain them out, and then dry as you would dry a washing.

When you wish to light your smoker, take a rag 5 or 6 inches square, roll it up into something like a ball, touch a match to it, throw it into the smoker, quickly fill the smoker with fuel, and then blow. No fear of putting it out; if the smallest corner is lighted it will not go out till the whole rag is burnt up, and if your fuel is at all fit, it will be surely lighted.

A suppy of saltpeter rags prepared in the spring—the preparation is a trifle—will save many a 5 minutes throughout the season, as well as some loss of temper.

Weber's Entrance Comptroller

A sample of Weber's patent entrance comptroller and protector for bees during spring and winter flights has been received. This is a very ingenious contrivance for use in outdoor wintering, or for early spring use, after bees are brought out of the cellar. Its object is to keep the bees confined to the hive, and at the same time allow the entrance of fresh air. This is easily accomplished by closing the entrance with wire-cloth; but thus confining the bees while the light is allowed to shine in the entrance is well known to be ruinous. Mr. Weber has taken advantage of the fact that light proceeds in straight lines, and will not readily travel around a corner, and has so arranged that an entrance 4 inches long and 5/8-inch deep may be open all winter long for the admission of air, but coarse wirecloth prevents the passage of bees, and the course the air travels prevents the admission of light.

A metal slide, centrally located, closes the direct entrance. When thus closed, the air passes sidewise 3½ inches, turns a corner and passes around a middle partition, traveling sidewise again another 3½ inches to enter the hive. By the time light travels this distance in such a devious way, its strength will have been dissipated. At any time when it is thought best to allow free exit, the slide may be withdrawn, giving the bees the full direct entrance. The slide may be shoved sidewise, so as to make the entrance any desired width from that of allowing a single bee to pass at a time up to the full 4 inches, allowing at the same time the direct entrance of the light. Or, if it be deemed advisable to allow a limited entrance without the admission of light, the metal slide may close all but an inch at one side, while an outside block covers all but an inch at the other side; thus again taking advantage of the fact that light travels in straight lines and objects to turning corners.

Just how much advantage there may be in the use of such a contrivance can only be told after trial, but it certainly seems well designed for the purpose it is to serve.

Bee-Disease in the Isle of Wight

That Isle-of-Wight disease, according to information in the Irish Bee Journal, is a more serious matter than might have been supposed. Of the bees on the island, 85 or 90 percent are dead and others dying, and H. W. Cooper, local secretary of the Association says:

"Those of us on the spot who *know* something of the havoc by this scourge, have not as yet discovered anything wrong with the brood."

Which makes it much to be feared that a new bee-disease is to be added to the list, and as such diseases are not always careful to confine their attentions to a small island, we in this country can not fail to be interested in keeping on the watch as to the outcome.

Unite Colonies in Good Season

At this time of year there are likely to be a good many colonies so weak that if left as they are they will stand small chance to live through the winter. The beginner, anxious to increase the number of his colonies, keeps hoping that they will build up strong enough, and finally he is likely to enter the winter with a lot of weaklings on hand, and a lot of empty hives next spring. No time should be lost in uniting such colonies until no weakling is left. The time will be none too long for the united colonies to get settled down into comfortable shape for winter. Besides, bees will unite more kindly now than later.

Bees Balling Their Own Queen

It seems a strange thing, but it is true, that sometimes a colony will ball its own queen. Perhaps the excitement of opening the hive is the cause, and if the excitement is kept up by the bee-keeper trying to free the queen, her death may result. If the hive is quickly closed when a queen is found balled, the bees will of themselves generally release her without any harm. So don't try to release the queen from the ball, but close the hive, and don't open it again that day.

American Bee Journal

Subscription Price Now 50c a Year

On July 1, 1907, when we decided to change the American Bee Journal from a 16-page weekly to a 32-page monthly publication, we reduced the price from $1.00 a year to 25 cents. We have since discovered that the 25-cent rate is entirely too low, in view of the kind of a bee-paper we are making every month. We do not wish to lower the standard now, and as labor, materials of all kinds including white paper, etc., have advanced in cost, we feel that the best thing we can do—in fact, the only thing to do—is to put the subscription price at 50 cents a year; in Chicago, 75 cents; in Canada, 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage, or 75 cents. These new rates will begin with September, 1907.

We are sure that our hosts of readers and friends will feel we are doing the right thing in this, as they certainly would not want us to continue at too low a subscription price. At 50 cents a year, this 32-page copy would cost the subscriber only about 4 cents—two 2-cent stamps — surely cheap enough, when its valuable contents are considered. Why, "Dr. Miller's Question-Box" alone is worth many times the subscription price, to say nothing of all the other valuable departments.

It is our intention to keep the old American Bee Journal at the head of the procession, where it has been for so many years. And to do this we will need the hearty co-operation of all our readers. There are yet thousands of bee-keepers who have never heard of the American Bee Journal. Many of them are your neighbors; can you not show them what they are losing by not having it every month?

On another page we offer many useful things as premiums for getting *new* subscriptions. We will be pleased to mail sample copies to any names and addresses of bee-keepers that may be sent to this office. If every present subscriber would send in just one new subscription during this month, by Oct. 1st our list would be doubled. Why not do at least that much to help along a good cause—your own cause? We are ready to do our part—will you, dear reader, not join with us in putting the monthly circulation of the old American Bee Journal up to where it ought to be?

The National at Harrisburg

It has finally been definitely settled that the 1907 convention of the National Bee-Keepers' Association is to be held at Harrisburg, Pa., on October 30 and 31. On account of the Jamestown Exposition there will be low rates on the railroads, and stop-overs at Harrisburg can be had on tickets from the west.

The last of October should be a good time for bee-keepers to go. Why not assemble here in Chicago on October 28 or 29 and go in a special car the rest of the way? Perhaps this can be done.

Swarm of Bees in a City Street

Some reader in California sends us a clipping from the Los Angeles Times, which describes a "pointed" and amusing experience with a swarm of bees in a Los Angeles street recently. It is surprising how fully most people let bees alone when they are not accustomed to them, or when not dressed for a bee-reception.

Cause of American Foul Brood

Dr. G. F. White, who is now connected with the Bureau of Entomology of the Department of Agriculture at Washington, D. C., has written an article on the above subject, which has been issued as Circular No. 94. It will be found on another page of this number, and deserves a careful reading. Dr. White acknowledges the assistance of Dr. E. F. Phillips in the experimental work done which led up to the preparation of the circular mentioned.

The National Association

On August 8th, General Manager, N. E. France, of Platteville, Wis., sent out the following information relative to the National Bee-Keepers' Association:

I ask each of our members to mail to me a few questions on bee-keeping with the name of the persons they prefer to have answer them. At the Convention, which meets at Harrisburg, Pa., October 30 and 31, 1907, I will read the questions that are sent in.

The National Association is planning to make a creditable exhibit of honey at the World's Pure Food Show to be held in the Coliseum, at Chicago, November 19th to 25th. I would ask any bee-keepers who are willing, and can do so, to help in this display by furnishing me one pound of choice, extracted honey of each kind their bees gather. Be sure to display your honey at the County Fair this fall. It is a good place to advertise.

What honey you produce and sell you can label with your name as producer. If you buy honey to sell, it must not have your label on it unless it also has the words, "Distributed by" in brevier type. "It is the intention of the law that labels on all food products should not be misleading in any particular."

All over the United States, until in June, bad weather was reported. Colonies of bees were weak and dying so that when the honey crop came there were very few bee-keepers who had bees ready to take advantage of it. I have seen reports from nearly every State, and but few have an average crop; many have nothing. During the last few days the reports have been better, especially in the clover belts. Basswood has generally yielded no honey, or at least a very small amount. Sweet clover and alfalfa did better. On the whole there will not be over half a crop of honey this year. Prices should be better than last year, and I hope they will be asked.

N. E. France, *Gen. Mgr.*

Some Generous "Donations"

"Ye Editor" and wife have been the recipients of some good things to eat during the post month or two, from several of our generous readers. We wish to return our thanks for the following:

Strawberries, from Dr. and Mrs. C. C. Miller, of Marengo, Ill.

Peanut butter, from Walter S. Pouder, of Indianapolis, Ind.

Blackberries, from J. L. Strong, of Clarinda, Iowa.

We wish to mention specially the peanut butter, which is a somewhat new article on the market, we believe. The kind Mr. Pouder makes is great.

Kind Words from Contemporaries

The Bee-Keepers' Review was the first to note the change of the American Bee Journal from a weekly to a monthly, in this paragraph:

"The American Bee Journal is to be changed to a 32-page, 25-cent monthly. Brother York hopes thereby to greatly increase the circulation and usefulness of his journal—that every bee-keeper, even with a single colony, will become a subscriber."

The American Bee-Keeper for August contained this very complimentary notice:

"The American Bee Journal, for many years a weekly periodical, appeared for July as a monthly, and will be so issued in the future. The subscription price has been reduced to 25 cents a year, and a very marked improvement in the general appearance of the paper results from the use of a high-grade stock of paper. The cover design of the first monthly edition is the handsomest that has adorned any bee-journal of modern times, being a skillful combination of photograph, wash and air brush. Really artistic pictures are rare in the apicultural press, but the American Bee Journal's cover scores an average above ninety. Congratulations, Brother York!"

Gleanings in Bee Culture had this cordial paragraph in its issue for August 15th:

"The 'Old Reliable' is now issued as a monthly of 32 pages at 25 cts. per year, instead of a weekly of 16 pages at $1.00. The new monthly has a new half-tone

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cover that is very neat, and the general make-up, appearance, and contents are practically the same as heretofore. The low price of the publication (25 cts. per year), and the general excellence of the matter, should and probably will make it very popular. We wish it abundant success."

Midnight Swarming Bees

Mr. A. Straub is a Chicago bee-keeper who has 18 colonies of bees. He called at our office recently, and reported that about midnight of August 14 one of his colonies cast a swarm of bees. It was about a peck in size, and settled on a small tree near his home. The swarm was hived the next morning, and went to work in good earnest. It must have been that they were too busy to swarm in the day-time.

World's Pure Food Show

More than one-third of the space for the World's Pure Food Show at the Coliseum, Chicago, next November 19 to 25, has already been contracted for. The big food interests throughout the country are heartily in accord with the exposition, and are eager to compete for awards before the greatest pure-food tribunal evere gathered together. The Commission on Tests includes Dr. Harvey W. Wiley, chief of the bureau of chemistry of the United States department of agriculture; Hon. Alfred H. Jones, Illinois State Food Commissioner; Dr. James A. Egan, Secretary Illinois State Board of Health; Dr. T. J. Bryan, State Analyst of the Illinois State Food Commission; Dr. W. A. Evans, Chicago Commissioner of Health; Dr. Walter Haines and half a dozen other leading chemists of the United States.

A California Association has announced its intention to ship huge bunches of many of the 640 varieties of grapes grown in the Golden State to the exposition for decorative purposes. Schwarzschild & Sulzberger Co., were the first of the big packers to sign for space, and have taken an entire section of over 1,500 square feet. The food departments of The Fair, The Boston Store and other big Chicago department stores will be represented.

Other prominent exhibitors will be The Great Western Cereal Co., The International Banana Food Co., The Blue Ribbon Chewing Gum Co., Red Cross Olive Oil, Rueckheim Bros. & Ekstein, etc.

All the booths in the big building will be uniform in design and color. An aisle 15 feet wide will run all around the building. This will be flanked on the outside by scenic representations of shops of all nations and times.

It is the purpose of the management to dispose of all space at least 2 months before the date the exposition opens, so that every effort can be devoted to attracting an enormous crowd of spectators. Sufficient aisle space has been allowed to handle over 20,000 spectators daily.

We referred to the coming pure-food show in these columns in June. We understand that the National Bee-keepers' Association is to have an exhibit of honey. General Manager France has already begun to work it up. We will doubtless have more to say about it next month. Honey-producers should be well represented, as they produce one of the finest of all foods.

Mr. Secor and His Yucca Plant

Hon. Eugene Secor, of Forest City, Iowa, sent us recently the picture herewith, showing himself and a yucca plant that was 5 feet and 7 inches high on July 30, 1907, when the picture was taken. Mr. Secor is well known to bee-

keepers, not only as an expert apiarist, but also on account of the many beautiful poems he has written bearing on the bees and their interesting nature. It seems almost time for another one to come from his mellifluous pen. Perhaps the muse's spirit will soon possess him, and his many friends will possess another rhythmic gem.

The Kansas Convention

The Kansas State Bee-Keepers' Association will hold its next annual meeting at Hutchinson, September 18 and 19, 1907. All persons interested in bees are invited to attend. This meeting will occur during the State Fair, so there will be reduced rates on all the railroads. The meetings will be held at the Commercial Club rooms. The first session will be 2:30 p. m., Sept. 18. Headquarters for bee-keepers will be at the Midland Hotel. O. A. KEENE, *Sec.*

Topeka, Kans.

Fair Apiarian Premiums

In last issue we gave the apiarian premium lists of several leading Fairs. There are no better places for bee-keepers to educate the public to the use of honey, and to the growing importance of bees and their products.

On Sept. 27 to Oct. 5, at Springfield, will be held the Illinois State Fair. The premiums offered on bees and honey are as follows:

	1st.	2d.	3d.
Display of Comb Honey	$20	$15	$10
Collection of labeled cases containing 12 or more pounds of White Honey from different flowers	8	5	1
Collection of labeled cases containing 12 or more pounds of Amber or Dark Honey from different flowers	8	5	3
Case of White Clover Comb Honey, 12 to 24 pounds	4	3	2
Case of Sweet Clover Comb Honey, 12 to 24 pounds	4	3	2
Case of Basswood Comb Honey, 12 to 24 pounds	4	3	2
Case of Amber Comb Honey, 12 to 24 pounds	4	3	2
Display of samples of Extracted Honey, not less than half-pound each	5	3	2
Display of Extracted Honey	20	15	10
Honey extracting on the grounds.	5	3	2
Frame of Comb Honey for extracting	5	3	2
Display of Candied Honey	20	15	10
Display of Beeswax	15	10	5
One Frame Observatory Hive Dark Italian Bees	4	3	2
One Frame Observatory Hive Golden Italian Bees	4	3	2
One Frame Observatory Hive Carniolan Bees	4	3	2
Honey Vinegar, one-half gallon, with recipe for making	4	3	2
Display of Designs in Honey	15	12	8
Display of Designs in Beeswax.	20	12	8

TENNESSEE STATE FAIR, SEPT. 23 TO 24, AT NASHVILLE.

	1st.	2d.	3d.
Best 10 lbs. extracted honey	$10	$ 5	$ 3
Best display extracted honey	15	10	5
Best case comb honey	10	7	3
Best display comb honey	15	10	5
Best display beeswax	5	2	1
Nucleus dark Italian bees	5	2	1
Nucleus golden Italian bees	5	2	1
Nucleus Caucasian bees	5	2	1
Nucleus any other race bees	5	2	1
Largest and best display of bees and bee-products, implements, etc., by indivdual exhibitor	25	15	10

J. M. BUCHANAN,
Franklin, Tenn. *Superintendent.*

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 50 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

American Bee Journal

Conducted by EMMA M. WILSON, Marengo, Ill.

Bees Refusing to Work in Comb-Honey Supers

MISS WILSON:—I have just read in your department of the American Bee Journal the account of 2 colonies of very cross Italian bees that would not work in comb-honey supers, as related by Miss Elsie A. Cutter. I do not know that I can suggest any way to overcome the crossness complained of, except by the use of brimstone or a change of queens, but I think I can tell Miss Cutter how to get the bees at work, but not in comb-honey supers.

I had a very strong colony this season that refused to work in sections day after day, when other colonies of like strength were storing rapidly. I thought if they would not work in sections I would try to get them to work in something more to their liking, and so put on another hive-body filled with drawn combs. This seemed to take away all excuse for laziness, and the bees went immediately to work in this upper story.

If one does not want the home of the colony established in this upper story he can, after a few days, put an excluder between the two hives, taking care that the queen is in the lower one. It is better that the bees be at work even if they do not work just where one wants them to.

I note that Miss Cutter says she gave her bees extracting supers, and that the bees would not work in them. It would be of interest to me to know whether she put an excluder under the extracting super. It seems almost incredible to me that a strong colony in the midst of a good honey-flow, and with a brood-chamber full of brood and honey, should refuse to extend their work in an upper story full of empty combs, if there were no hindrance in the shape of a queen-excluder. If the excluder is kept on until brood is found in the upper combs, and then inserted it is most likely that the work will be continued above. If I had a colony that would not work under such circumstances, I would find the queen and cut off her head at the earliest opportunity, and give the colony another queen.

I will here remark that I have a high regard for the working qualities of hybrid bees. It is my practice to introduce a number of pure Italian queens into the apiary every year.

Leon, Iowa. EDWIN BEVINS

Thank you, Mr. Bevins, for your suggestions. I think your plan would work in most cases; I would have said in all cases, if Miss Cutter had not said that she failed to get them to work. Your plan is the same as the one used sometimes in our apiaries, with the exception that we put the excluder on at the time we put the upper story on, but we always place a frame of brood in the upper story to induce the bees to go to work at once. I think you will find that in that case the bees will go to work just as quickly, and it has the advantage of being all done at one operation.

I am inclined to think that the queen's head would come off in this locality if she could not be induced to work in sections.

Trained Nurse as Bee-Keeper

DEAR MISS WILSON:—Will I be intruding, if I ask you to send a thought in my direction?

My work for some years has been that of trained nurse, but with the advice of my physician, I am giving it up, and it is essential that I engage in some other line of work not quite so wearing on the nerves, and I have been considering and reading up a little on the bee-industry, thinking that possibly next spring I might engage in the work, if there is the least possibility of success. Will you kindly give me your opinion regarding this, and also the amount of money a beginner should invest? ILLINOIS.

There is no question but bee-keeping is a splendid occupation for a nervous woman, but there are many things to be considered before advising to embark in bee-keeping as an occupation.

There are women, and women. Not every woman will make a success of bee-keeping. There must be a liking for the business. Of course, you can't tell until you have tried it. To make any considerable outlay until you have tried it would be reckless; best get 2 or 3 colonies to begin with. You can get a whole lot of experience out of 2 or 3 colonies, and a whole lot of fun besides, and gradually grow up into the business, making the bees pay their own expenses, which is much the better way of doing, for if you can't make a few colonies pay, you surely can not a large apiary. This may seem like a slow way of doing, but in time you will come to think it is the best way, as only a very small outlay is necessary to begin with, for a colony of bees can be bought at somewhere from $5 to $10. Besides this, you should invest a dollar or so in a good text-book on bees and a bee-paper.

Some Swarming Experiences

I am quite prepared to agree with Dr. Miller, that swarming is not a very delightful experience, and I have been wrestling with it in great shape this summer. Now, don't anybody say, "That's your Carniolan's." I can't really see that they are bigger sinners than the others in this case, at least. But I have noted one thing: When you find a hive where the bees have refused to enter the sections—where every available spot in the brood-nest is crowded, and out they come—these are not Carniolans.

It seems to me as if everything in the yard, with one or two exceptions, was bound to swarm, and more than once, if allowed.

I read of Dr. Miller's piles, and gaily I reared a pile to see the bees pour out later, as it would seem by the bushel!

"A queen of the present season's rearing will rarely swarm," but they are at it none the less. It goes without saying that there is plenty of honey coming in.

While swarming in general does not delight me, there was a swarm today that did. I must tell you about it.

In the foreground of the picture may be seen a hive of peculiar shape and distinguished appearance, which I call "The White House." It is a hive containing 10 closed-end frames, 10x12 inches in size. By all odds the bees ought to have wintered in that hive, but they did not last winter. It is the only hive now standing in my yard containing empty combs—at least, I might so have written yesterday. I have been intending to put bees in it rather late in the season. I did not want them in early as the hive lacks the tiering-up opportunity the others afford.

APIARY OF MRS. AMOS.

Now, mark what happened. A swarm was hived yesterday. Today I saw it sailing out again into space, and I thought, "Now that's to do over again."

Not much; those delightful bees only circled a few times and went pouring into the portico of the white house!

I said to myself, "I must have out a decoy or two right off. If bees will single out the only empty hive in the yard, and vote that it is a good place

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to live, it goes to show that there is not much that concerns them in their vicinage, of which they do not take cognizance." MRS. A. L. AMOS.

Comstock, Neb., July 31.

Taste for Sweets an Index of Wholesomeness

It is gratifying to note that the sugar consumption of the United States has grown until it now equals that of England, which was heretofore regarded as the greatest sugar-consuming nation on earth; for nations may be rated by their taste for sweets. Latest statistics show that the sugar used in the United States and England is equal to 80 pounds a year for each man, woman and child in these two nations. Of course, the sugar employed in the manufacture of jams, preserves, confections, etc., aids in forming this average, but sugar is sugar, whether it is eaten raw, or in the coffee or in pies, or preserves, or in candy, and the average person of the United States and England eats more than twice as much sugar as any other person in the world. As against the American and Englishman's 80 pounds of sugar a year, the German eats but 33 pounds, the Austrian eats but 34 pounds, Russia 20 pounds, and Italy only 7 pounds.

Nothing could be said in greater praise of a people than that they have a taste for sweets. It shows a wholesome, vigorous, healthful condition,—an appetite not jaded from excessive indulgence. The child whose appetite has not become polluted or calloused from false relishes, smarting sauces and burning drinks, and dissipation, loves sweets; so does the girl of bright eyes and untainted youth, as is evinced by her fondness for ice-creams and desserts; the young athlete among men loves sweets, nearly as well as does the child.

The bar-room lounger, the beer-soaked twaddler, the tobacco-scented smoker of cigars and pipes, the cigarette fiend, the blear-eyed absinthe drinker and the red-nosed whisky drinker, the dope fiend and the depraved of all other classes do not like sweets. Long since their minds and appetites have lost the desire for everything pleasing to the natural palate. Among these people you will find the eaters of foul-smelling cheese, which the older and more rancid it is the better it is liked; the lovers of moldy sausage, of old, dried fishes, and of pickled eggs of fishes; of goose-livers, made vile by natural and artificial decomposition; of meats and fruits that are allowed to spoil before they are eaten. Such vulturine tastes dote on pate de foie-gras, caviar, salted mackerel, limburger and roqueford cheese, pickled olives, pickled anchovies and a hundred other vitiated foods, the viler they are the more they are esteemed. All other kinds of foods these appetites pollute with repugnant sauces, and they wash them down with fiery drinks, rated in esteem according to their age.

And from these causes, France, China, Russia, Spain, Austria, Germany and Italy laugh at the United States and England and say that our foods are not fit to eat. England has been called the nation of a hundred dishes and one sauce. The Russian peace commissioners went back home and said the American foods were unspeakable. Some people base their aristocracy on the fact that they are able to eat caviar. These people all want something foul and rancid, something sour or bitter—never anything sweet, and the taste which enjoys sweets they call amateurish or barbaric.

The vulture is known by its habits as well as by its name, and people are of what they eat. A definition of the word sweet, therefore, may aid in the distinction of these nations. Here is one definition of the word:

"Having a certain agreeable taste or flavor, like or resembling that of honey or sugar—opposed to sour and bitter.

"Not changed from a sound or wholesome state; not stale; not sour; not putrescent or putrid.

"Mild, soft, gentle."

Then as people are what they eat, and as things that are equal to the same thing are equal to each other, we may make this deduction:

The people who like sweets are sweet of nature; they are agreeable and pleasing; they are not changed from a sound or wholesome state; not stale; not sour; not putrescent or putrid; they are mild, soft, gentle.

The people who do not like sweets are not sweet of nature. They are not agreeable nor pleasing; they have been changed from a sound and wholesome state; they are stale, sour; they are putrescent and putrid.

So let's rejoice in the fact that America and England eat twice the amount of sweets of any other nations in the world.

But let it not be understood that this is an argument in favor of the unlimited eating of sweets. While the taste for sweets is a natural desire, there is danger in the excessive gratification of even natural desires. This truth is especially manifest in children's liking for candies, which often is productive of most serious consequences. When a people have lost a natural desire, altogether, and substitute therefor a desire that is unnatural, it betokens unwholesomeness and possible degeneracy.—What To Eat.

The foregoing article from the magazine What To Eat is well worth pondering over. It will probably be news to many a member of our circle to learn that she is using in her household 4 times as much sugar as her Russian sister, and 11 times as much as her sister under the sunny skies of Italy, and it will be some comfort to learn that this greater desire for sweets points to a more desirable condition of body and of mind.

It would be well if What To Eat would expand that last paragraph a little farther. More than one reason may be given for the "serious consequences" arising from the excessive gratification of children's liking for candies. Unwholesome—not to say absolutely poisonous—ingredients are too often to be found in candies. Let us hope the pure-food laws may help in this regard. Candies are eaten between meals, and the "picking habit" grows until many a child and many a young woman clogs the stomach before mealtime, and then fastidiously rejects the wholesome dishes at the regular meal. If honey were substituted at the regular meal, there would be less craving for candy, and on account of the more ready digestibility of honey as compared with sugar, little or no danger of any interference with the most robust health.

Conducted by J. L. BYER, Mount Joy, Ont.

Honey Crop and Prices for 1907

The honey crop committee of the Ontario Bee-Keepers' Association have issued the following report:

The honey crop committee of the Ontario Bee-Keepers' Association met in the Secretary's office, at Toronto, Friday, August 9, 1907. Over 100 reports from different parts of the Province, and a number from Quebec, were laid before them. Reports would indicate that a very great loss of bees has been sustained since last season, and that probably 50 percent perished during the winter and spring. The honey-flow in a few localities is reported good or fair, others light, and in many nothing has been harvested—probably an average of less than one-third crop in all.

In view of these conditions, and the shortage of the fruit crop in all variations, and the higher prices prevailing, it is the opinion of the Committee that an advance over last season's rates should be reasonably expected, and suggest the following:

No. 1 light extracted honey, 11½c. to 12½c. per pound, wholesale; retail, 14c. to 15c.

No. 1 comb, $2.50 to $2.75 per dozen, wholesale.

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No. 2 comb, $1.75 to $2.25 per dozen, wholesale.

On the darker grades not yet harvested, a reasonable advance over last season's prices should be obtained.

H. G. SIBBALD,
WM. CROUSE,
W. J. CRAIG,
P. W. HODGETTS, Sec.

While the prices suggested, may, to some, seem a little high, yet when everything is taken into consideration, there is no good reason why they should be lower. Some have thought that foreign honey would be shipped in, but with the general shortage of the crop in the large producing centers, coupled with the 3 cents per pound duty, there is not much danger from that source.

"Mother Earth" for Cleaning "Bee"-Daubed Fingers

Strange how some of our notions are sometimes apt to "change without notice," quite suddenly.

When I first read Dr. Miller's plan of cleansing the fingers of honey by means of rubbing them with earth, I thought the method—well, rather *dirty*.

Last week it was my lot to examine a large apiary, and as the frames in the hives were spaced "any old way," with lots of honey along the top-bars and in burr-combs, my fingers were constantly being "stuck up." No water being near the yard, I was at a loss to know how to keep smoker, etc., free from honey, when I happened to think of the Doctor's plan. Say, it works like a charm, and a good many times during that day was a handful of dry earth called into use. To be sure, when dong any work by way of handling honey, etc., a basin of water is the proper thing, but in cases like the one mentioned, Mother Earth is par excellence. Doubters, try it, and be convinced.

Alfalfa Honey in Ontario

Frank Adams, of Brantford, Ontario, reports that this year, again, his bees did well on alfalfa. Reports like this are rare in Ontario, and in our own locality I have yet to see the first bee working on this plant.

Fair Season—Two Queens in a Hive, Etc.

FRIEND BYER:—The honey season has closed with a jolt in this locality. Bees have gathered only a fair surplus. Without an exception colonies headed with young queens did the best. A few of the best averaged 160 pounds each, and the rest all the way down to 25 pounds. Colonies that were considered weak in May gained up and did much better than those that were very strong. The latter swarmed in spite of all I could do, and thus cut down the surplus.

With the two-queens-in-a-hive system I had the following experience this season: In looking through a colony of Italians I discovered a young queen. She was a worthless-looking little insect, so I killed her, and supposed that the old queen had previously been killed. There was an extracting super on this colony, and when I introduced a new Italian queen into it I lifted the super off and placed the cage between the top-bars of the brood-nest. I left the excluder off, and replaced the super. In 5 days I examined them again and found the old original queen with clipped wing in the brood-nest, and so concluded they had killed the new queen. Two days later I examined the extracting super and found the new queen had taken up her quarters there. I introduced the new queen later into a nucleus. The old queen is still living and doing good work, and I am wondering why they reared that young queen which I found in the first place. If they were trying to supersede the old queen why have they not tried it again? or do they only try that once in a season?

There was only enough basswood gathered to flavor the clover honey. I am feeding now to stimulate the queens. I have given up spring stimulating to a great extent, as I find that colonies strong with young bees in the fall do not require spring feeding. I have them strong to go into winter quarters by light feeding just after the flow.

The hint given in one of the bee-papers in regard to getting all-worker comb built from starters by weak colonies headed with a young queen, has been worth something to me. I made a number of 3-frame nuclei and gradually added frames of starters. Each colony drew out 7 frames of beautiful worker-comb. I did not feed them any, and they have abundance of honey. I tried the same thing with a weak colony with an old queen, and a fine frame of drone-comb was the result. I wish I knew the *why* of some of those bee pranks. H. A. SMITH.

Palermo, Ont., August 5.

You may be thankful, Mr. Smith, in having secured a crop of honey this year. Only in a few localities are bee-keepers able to report even a "fair" surplus, and in our immediate section we have scarcely any honey. To make matters worse, the weather has been so very cool and dry that buckwheat is not yielding anything and prospects now are that we will have to feed more for winter stores than what we have taken from the bees.

As to your superseding experience, quite possibly that old queen will fail before next spring, even if she is doing all right now. About 4 weeks ago I found a colony headed with a queen of this year's rearing, making arrangements for superseding. I broke down the two cells started, and up to the present they have not tried to supersede again. But I shall take note of that colony and see if the queen does not fail in the near future. Past experience leads me to think, that such is likely to be the case.

Yes, weak colonies headed by young queens will do fine work, by way of building worker-combs from starters, but, as you intimate, it does not work that way when old queens are in the hives. However, I am a little doubtful if it pays not to use full sheets of foundation even in weak colonies, especially if the bee-keeper produces his own wax for foundation, and does not have it to buy. Unfortunately with us this year, except during fruit-bloom, foundation in any shape would not be touched by the bees, and the 40 nuclei I started were got into shape for winter only by giving them combs of brood and honey from the old colonies.

Different Methods of Liquefying Granulated Honey

BY C. C. GREINER.

Ever since I have been on the road selling honey, I have taken extra pains to inform and educate the honey-consuming public within my reach, in regard to the granulating process of all pure honey. But in spite of all my efforts along this line it is still the general belief that granulation indicates adulteration, and even those people, who know all about this natural change prefer to buy extracted honey in its liquid state. My endeavor to furnish such goods as the market calls for, has forced upon me a fair amount of experience in liquefying granulated honey, both in retail glass packages and in the larger 60-pound tin cans.

Occasionally inquiries are made in regard to liquefying honey in glass jars. Well, here is what I know about it:

The most important feature of the operation is time—lots of time—but as little heat as possible. It is a job that can not be hurried, if we wish to retain the fine flavor of our honey. We must therefore take time by the forelock, and begin in season.

After my honey is put up in glass cans, it begins to thicken, and look milky, as soon as colder weather sets in. This takes place, generally, during September, and, long before winter begins, every can, if let alone, would be as solid as a rock, figuratively speaking. But I don't give it the chance, if I

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can help it, for as soon as it begins to look milky, I begin to remelt it. It takes less heat, and it can be more quickly done at that time than later, after it has had time to become solid. This, too, seems to answer all the purpose, for it will generally remain liquid all through the winter after this one treatment.

We have over our kitchen stove a shelf that holds one dozen quart cans. With the common firing for family use honey placed on this will liquefy, ready for closing the can, in about 24 hours. It is very essential that every granule should be melted to prevent granulation a second time later on. I always unscrew the top of each can a very little when I expose the cans to the heat. This may not be necessary. Years ago I liquefied pound-bottles in the same way without removing the corks, and it seemed to work just as well. However, I think it is better to give the packages a chance to "breathe."

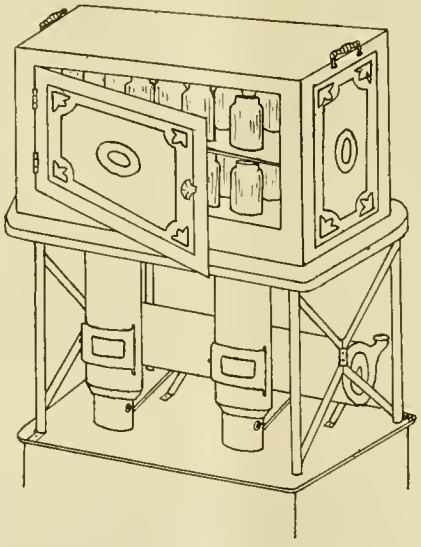
As long as I have liquid honey on hand to supply the market, I keep this shelf only occupied with cans, changing whenever necessary, but later on, when the markets begins to call more regularly for honey, the shelf is too slow. To keep ahead of my orders, I use a two-wick oil-stove with a sheet-iron oven. (See illustration.) The latter accommodates two dozen cans at a time, and with the blaze turned so low that the cans can be handled comfortably bare-handed at any time, two batches can be liquefied in a day. This gives me a liquefying capacity, including the dozen on the shelf, of 5 dozen a day, more than enough to keep me supplied.

To liquefy 60-pound cans of honey is a very unpleasant job, the best we can make of it. They are too heavy to handle, with no chance, except the little wire loop, to get hold of them—they slip and slide like so much quicksilver. I aim not to have any 60-pound cans, or honey in still larger bulk, to liquefy. What I expect to sell in this shape is put up in these packages, but all the rest is put up in retail glass cans or tumblers at extracting time, or as soon as the honey is fit to be handled. But as we can not foretell the conditions of the season's trade, our plans and calculations do not always materialize just as we expect, and thus it happens that I have to liquefy more or less honey in 60-pound cans every fall or winter. In this case I resort to the hot water plan.

For the outside water receptacle I use the bottom-part of an uncapping can. This is a pan with square sides 10 inches deep. In the bottom of this I place a little wooden frame, and when the can to be liquefied is set on this, fill in the water. To supply the principle of "lots of time," the whole outfit is placed on the back part of the kitchen-stove a day or two before I intend to use the honey. As we use coal, and keep fire constantly day and night, the water is kept at about the right temperature all the time, so that when I am ready to do the putting up, the honey will flow readily from the can. If it is yet a little thick or milky at that time, I fill the jars just the same, and let them have a turn in the little oven.

Formerly I always filled jars direct from the 60-pound cans, but of late years I have a better way. I empty them first into a large cream-pail—melting-pail, as I call it—holding about 85 pounds, which I had made for this purpose. It has a hoop of 1¼-inch band-iron soldered to the bottom to keep the latter from coming in direct contact with the stove, and at the same time prevent the honey-gate from striking, when the pail is sitting or sliding on the level surface. The advantages of an emplement of this kind are several. When filling jars, honey should always be drawn from the bottom. It may be free from all impurities otherwise, but the melting process produces more or less foam, which rises to the top, and thereby improves the appearance of the honey drawn from below.

Another point is worth considering.



GREINER'S RELIQUEFYING APPARATUS.

It is much more convenient to fill small packages from a honey-gate than from the opening of a 60-pound can. With the latter, try as we may, occasional spilling and mussing is almost impossible to prevent.

In cases of necessity the slow process of waiting a day or two for a 60-pound can to melt, may not be just the thing. To save time, the matter can be hurried considerably without running any risk of injuring our honey. We will suppose that the depth of our hot-water receptacle is only about one-half the height of the can to be melted. It is not likely that many of us are the owners of a suitable implement that will admit of submerging a can clear out of sight. In the first place, the temperature of the water can be raised a little higher, say to about 120 or 125 degrees. This is a temperature that a person's hand can bear a short time, but it may become a little uncomfortable after awhile. In about 3 hours the lower or submerged part of the honey will be melted enough so that it can be turned into the melting-pail, after a hole has been drilled by means of a long knife through the upper part of the yet granulated honey. This having been done, the second step would be to screw up the can and replace it bottom-side-up in the hot-water. If the water has been deep enough to submerge one-half of the can, it does not take as long to melt the remainder as it did the first part, because during the melting of the honey below, all the rest has been slightly warmed.

The operation can also be performed in a reverse order by first placing the can in the water, top down. Then it can be turned out whenever it is melted enough to run, without being obliged to open a way through the upper part of the honey. To facilitate the handling of the can it is advisable, as a makeshift, to wrap a small rope—a piece of a clothes-line will answer the purpose—two or three times around the can, and tie with the usual half-hitch. This will make a much better lifting device than the frail, little wire-loop of the can.

As soon as the first can be emptied, a second one can take its place in the hot water. After once started, no time need be wasted; the work connected with our retail-packages, such as washing, labeling, filling, sealing, etc., will occupy our time while the honey in the next can is melting.

La Salle, N. Y.

Outdoor Wintering of Bees

BY C. P. DADANT.

I have received the following questions for reply:

MR. DADANT:—I wish to try wintering a portion of my bees on the summer stands, and as I am informed that you do it successfully, I trust you will be kind enough to give me your method of preparation. I want to know what you use, and how you use it. Do you use a honey-board? If you use enamel-cloth, how do you maintain a bee-space between it and the tops of the frames? And what else do you use and how do you apply it?

Knox Co., Ill. F. B. HAZLETT.

We do not use any honey-board on our hives at any time. In the spring and summer months we use a cloth over the top of the frames, or over the top super, and a straw-mat on top of this cloth. In winter we remove the cloth, which is usually impervious to moisture, and use the straw-mat directly over the frames of the brood-chamber. We have never tried to use any device for a bee-space at the top. Perhaps a bee-space would be best, and, in this case the Hill's device is as good as anything. It is kept for sale by nearly all the dealers.

The straw-mat is not used by many people, and yet we would not willingly do without it. It is warm in winter, cool in summer, flexible and not easily propolized, even when left over the frames in the busy season. But at this time, the bees fasten it to the top of the frames and it is soon torn to pieces. So we have always used a cloth during the working season.

Our purpose, in using the straw-mat for winter, is to have a cover which will retain the heat and still allow the moisture to escape. This may be secured in the same way by the use of old woolen carpets. Two or three thicknesses

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placed over the brood-chamber will absorb moisture while keeping the bees warm.

Some theorists on wintering bees have held that it is not necessary to have absorbents for moisture in the top of the hive, and that the bees will winter as well if the ceiling is absolutely air-tight. This is correct in ordinary winters—when the bees have a chance to fly once in every two or three weeks, or when an occasional day is sufficiently warm to allow the frost to thaw and the hive to become dry—but I have seen winters when the long, protracted cold weather caused such a large amount of moisture to accumulate in a hive where there was no upward escape for moisture or absorbents for this purpose, that the bees were practically soaked with the dampness produced by their own breath, accumulated during months of confinement. A ceiling which allows the moisture to pass into the cover, without permitting the escape of heat is positively the best for outdoor wintering. I believe that our successful cellar-wintering bee-keepers also approve of a slight amount of top ventilation or of absorbents, even in the cellar, though it is of less importance there.

Our method is to place forest leaves in the cap over the top of the straw-mat, but this is because we have the forest leaves handy in most of our apiaries. Anything else, such as chaff, woolen cushions, corncobs, or even dry shavings, will answer the same purpose. It is of some importance to have this material arranged so that it will not spill over the combs, when placing it or removing it.

As to the lower ventilation of the hive, it is of less importance. But if there is no top packing, a much larger amount of lower ventilation should be given, so that the moisture which may gather be enabled to escape or dry out. But with a good, warm packing above, only a small entrance-space need remain. Of course there should be no chance for mice to crawl in. They would disturb the bees much during cold weather, besides the ravages they might make in the unoccupied combs.

Weak colonies may be wintered on the summer stands, by covering them entirely with outside cases. An ordinary Langstroth hive could be covered with a dry-goods box. This keeps the bees much warmer than outside exposure. But the outside cover must be removed or thrown back in warm days so that the bees may be able to take flight. If they were confined during warm days, it would be fatal, as they worry a great deal when the weather is warm, if they cannot get out.

We aim to have our colonies as sheltered as possible on all sides, but the sunny side, and we want that to be the side of the entrance. So we try to face our hives as nearly south as possible, although a southeastern or southwestern exposure will do nearly as well.

When there is snow, we try to keep the bees quiet, especially if they have had a flight shortly before. But if the snow is thawing and the weather warm, it is better to let them fly, even if some are lost on the snow, than to try to keep them confined. In very heavy snows, during the coldest months, we have often found colonies whose hives were entirely buried in the snow to go through all right. The only danger from the snow is, if it should thaw, and the water from it should afterwards freeze and close all the openings. When there are absorbents in the cap over a porous cover, there is air enough to be had through this to insure the bees against smothering. But when the snow melts, it should be cleared from the entrance and the alighting-board, for, if it is allowed to remain, it will make a large amount of water, and the bees will often get soaked in trying to go in or out. We want to see the entrance dry at all times when the bees are flying.

A good colony, of average strength, will usually produce enough warmth to thaw the snow at the entrance before the sun begins to act upon it. If the hive is slanting forward, as it should always be, it will not be difficult to clear the snow away and allow the water to run down and off the alighting-board, at the first rays of the sun, on any day when it is likely to be warm enough for the bees to fly. In cold weather, better let it alone.

As a matter of course, we must make sure, before winter, that our bees have enough stores for winter, and that the honey is of good quality. The ordinary amount considered necessary for wintering is 25 pounds. We would prefer 40 pounds, and in large hives we have nearer to this last quantity than to the first-named. If there is fruit-juice or honey-dew in the combs, it should be extracted. We have at times failed to comply with this requirement, but have always regretted it. It will always pay to remove fruit-juices, honey-dew or unsealed honey from the combs. The last, however, will not be injurious if the colony is not over-rich, as this unsealed honey will be consumed first. But we have seen winters, after extraordinary productive seasons, when unsealed honey at the lower edge of the outside combs remained late enough to absorb moisture and fill the cells to overflowing. This watery honey was death to the bees that consumed it during cold weather.

If the bees are in proper condition, a very ordinary colony will be able to withstand a very cold winter.

Hamilton, Ill.

Where Do the Field-Bees Deposit Their Loads?

BY G. M. DOOLITTLE.

Under the above heading, on page 614, the Editor finishes up his little "sermon" in a way pointing toward a "scrap" between Macdonald and Doolittle. Now Doolittle wants no battle with any one, and he would not step in to interfere with this Macdonald-York matter at all, were it not that Doolittle is apparently misunderstood by one or both of them. And in order that I may be the better understood I will simply give the readers a brief account of how I find things along the line of this controversy, "and leave it to each of the two gentlemen to convince the other that he is mistaken."

Up to the honey-flow, I work as far as may be to get all the brood possible in the combs. With a really good queen, I succeed in having 8 out of the 10 frames (of Langstroth size) used in a hive, filled with brood, and the other 2 from half to three-fourths full. With queens not up to this *"good"* standard, some have 6 combs full, 2 others from half to two-thirds full, and the remaining 2 with no brood in. If any queen, having a fairly good chance, does not come up to this latter standard, the hive containing her is marked, and she is superseded as soon as the harvest is over, unless I find out the condition of things so that she can be more profitably superseded before the flow of nectar commences.

With the first standard, all of the 10 frames are allowed to remain in the hive when the supers are put on; but with the second standard, and all colonies not coming up to it, dummies are put in to take the place of all frames not having brood in them, and in this way each colony is compelled to labor in the sections according to the population they may have. In this the reader has one of the *"kinks"* Mr. Macdonald speaks about.

If all of the combs was left in the hive, where a colony did not have brood to an amount greater than 6 combs full, little or no section honey could be secured, for the first deposit of honey (*not nectar*) would go into the combs in the brood-chamber, and with this "start-out" the combs would contain the "bank account" and the sections little or nothing. But with only brood in the combs of the brood-chamber at the commencement of the honey harvest, the bank account is sure to be in the sections. Here I say "only brood." Mr. Macdonald quotes me as saying combs "literally *filled with brood.*" Without taking time to look up the matter, I will say that I doubt not that he quotes me corectly, for, as the editorial hints, I am given to emphatic statements.

Now, just what do I mean by combs or frames containing only brood, or literally filled with brood? In general terms, just what is needed for the *brood*. I very much doubt whether a square foot of comb was ever seen not having a single cell in it unoccupied with brood. In other words, the best frames of brood will have, here and there, scattered about among the cells, one or more which do not have an egg, larva or pupa in them, while the average frame of brood, at the time of the comencement of the flow of nectar, will contain cells to the number of several hundred with pollen and thin honey, scattered all about among the brood, needed for the immediate demands of that brood, and the *every-day* use of the colony. This they must have. If they do not, no *bank account* will ever find the credit page for that colony, either in the combs or in the sections.

There is a great difference between a *brood-nest* and a *brood-chamber*. What I want you all to see is that, if we

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would secure the *very best* results, the brood-nest *must fill* the brood-chamber, and when such is the case that brood-chamber is literally filled with brood, or has in it *only* just what is necessary for the every-day wants of the brood. If the brood-chamber is only partly occupied with the brood-nest, at the time of the commencement of the honey harvest, then that honey *not* needed for the daily wants of the brood, which is brought in from the fields, goes into the part of the brood-chamber *not* occupied by the brood-nest, and thus the brood-chamber becomes the "bank" in which the surplus is deposited, and not the sections.

If we are working for extracted honey, and put on supers of empty comb, then there is little need of working so hard to have the brood-nest occupy the *whole* of the brood-chamber, for bees will enter a super filled with empty extracting combs and deposit their surplus there nearly, if not quite, as quickly as they will place the same in empty cells on the outside of the brood-nest. But to go into a super, all cut up into little section apartments, having separators for partitions, and comb foundation in each section, instead of empty comb, the case is altogether different, and we must work accordingly if we are to secure good results from our bees.

With this long preliminary, I come to the matter of "Where do the field-bees deposit their loads?" Surely, not in the cells of the combs, either in the brood-nest, brood-chamber or in the surplus apartment of the hive, if my observations count for anything. I have stood, sat, and lain by the side of an observation hive for minutes, and hours, till these will count into days, and I never yet saw a single bee coming in from the field with a load of nectar, deposit the same in the cells of the comb. The loaded field-bee seeks out a young bee—one less than 16 days old, or those which do the work inside of the hive, when a colony is in a normal condition—and the load of nectar is given to this inside worker, and the sac of this inside worker holds that nectar until it is sufficiently evaporated for depositing in the cells, unless more comes in from the fields than the sacs of the inside workers can contain. When this happens, then this thin nectar is deposited in the cells, generally in those scattered about amongst the brood, so far as they will hold it, as the nurse-bees use this thin nectar or honey in preparing the chyle for the larvæ. If the vacant cells in the brood-nest will not hold the surplus of nectar, above what the sacs of the inside workers can contain, then these inside workers deposit it anywhere that vacant cells, not containing evaporated nectar (or what has now become honey), can be found.

In an abundant yield from basswood, I have seen such nectar deposited in a comb left standing near the entrance of the hive on the outside, when on shaking the bees off this comb, the thin nectar would fly out of the cells the same as it will during a good flow from the brood-combs. And it is not necessary to have an observation hive to prove this part of the matter. Just supersede a black queen with one of the golden Italians about a month before your expected flow of nectar, so that at the time of nectar you will have black field-bees and yellow inside workers, and you will see the black field-bees giving their loads of nectar to the golden young bees when they are on a comb you hold in your hands, just taken from the hive.

Now for another simple proof: At 10 a. m. look at the entrance of any hive where such an exchange of queens has been made from 28 to 36 days previously, and you will see only black bees coming in with loads of nectar. Now open the super of sections and look for black bees depositing their loads in the combs. Surely they will be doing this, if the old ideas of the bees working their way from the fields up through the crowded mass in the hive so they can deposit their loads in the supers, was correct; or that an entrance was needed in the super so that the field-bees could go direct to the sections to deposit their loads. But instead of finding black bees there, if the date be 36 days after the golden queen began to lay, you will find 9 out of every 10 bees in the sections are as yellow as gold, and all transparent from the loads of nectar from the basswood blossoms their honey-sacs contain.

Now, Messrs. Macdonald and York, I am not in this fight of yours. If either of you can get any good or comfort out of the above, or if the readers of the American Bee Journal get anything out of it which will be of benefit to them, I shall feel well paid for the part I have taken in the matter.

Borodino, N. Y.

Some Practical Don'ts for Bee-Keepers

BY E. W. ALEXANDER.

While we are so free to tell the inexperienced what they should do in order to succeed, would it not be well to remind them of some things they should *not* do?

Inventing Hives.

First, don't spend either time or money in trying to construct a new form of hive—not but that there are some serious faults in nearly all of our standard hives, but let the experienced bee-keeper remedy those faults.

Management of Weak Colonies; How to Prevent Robbing.

Don't allow your bees to acquire the habit of robbing. Hundreds of weak colonies are lost annually by this provoking habit which is frequently caused by the neglect of their owner. One of the worst features of taking bees from their winter quarters, a few at a time, is that it almost invariably starts robbing. The colonies that are taken out first, and have had their cleansing flight, being well located are in prime condition to attack every colony that is taken out later, and before they become located the bees from those that were taken out first have full swing at their less fortunate neighbors. In order to prevent this costly and unpleasant state of things, where you have to set out your bees at different times, first contract the entrance of every colony; then as soon as you find a colony that is being robbed, even though it is only just started, close it up and keep it so for several days; then if they have any brood, set them on top of a strong colony with a queen-excluder between. If they have no brood, and still have a queen, give them a comb containing brood from some other colony.

In putting two colonies together in this way don't disturb either of them any more than you can help, especially the stronger one. If you keep a close watch on your apiary, and treat them as above described, you can save nearly all of your weak colonies with but little trouble, and at the same time prevent your apiary from getting into that demoralized condition which they frequently do when they find several weak colonies which they can over-power with but little loss of bees.

Caution Against Making Increase too Rapidly.

Then the desire for more bees is almost sure to tempt the inexperienced to divide his colonies to that extent that they are almost worthless, either for surplus or to try to winter. So, don't make your increase too fast. If you do, you will not only lose your prospect of securing a fair surplus, but the chances are that you will lose many colonies during the following winter.

Keep Good Bees and Produce Good Honey.

Then don't be contented in keeping bees that are not good honey-gatherers. This is the principal thing we keep bees for; and if they fail to give us a good surplus when they should, supersede their queens with queens of a good honey-gathering strain.

Then don't produce poor-looking comb honey. You have no more excuse for producing poor stuff than the dairyman has for producing poor butter; but produce a quality that you will take pride in stamping on every package of it your name and address.

Don't set your bees in a place where they will annoy the public. Either keep them where they will not disturb any one, or sell them and go out of the business.

Don't allow drone-comb in any hive except one or two, and see that these hives have choice breeding queens. There is no more profit in keeping a colony of bees where a large percent of their combs is drone-comb than there would be in keeping a poultry yard of roosters.

Don't allow kingbirds, skunks, toads, and snakes to hang around your apiary. If you do they will weaken the working force of every colony.

Don't think that bees will give you good results in either increase or surplus honey if you neglect them and fail to do your part. The day is past when the word "luck" has any bearing on bee-keeping. The man who conducts his business in a careless, slipshod way, taking it for granted that this and that

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will come out all right, is only fooling himself; and the sooner he realizes it to be a fact, the better for all concerned. So, don't try anything of the kind, but look close to all the minor parts; and when you have united them into one fine method for practice you will be well rewarded for your study and perseverance.

Don't spend any time in worrying over the frequency of poor seasons, but spend your time in preparing your bees to make the most they can of any kind of season that comes, then you will be almost surprised to see how few poor seasons there are. We have not had a really poor season in 25 years, while some of my neighbors complain of a poor season nearly every summer.

SECOND-HAND HONEY-PACKAGES.

I almost beg of you not to buy second-hand packages to ship extracted honey in. I don't know when I ever read better advice than Mr. Muth gave us a short time ago on this subject. Don't use those poor packages. If you do, you not only bear down the market price of honey, but you indirectly raise the freight-rate.

Don't bother with starters of comb foundation in your breeding or extracting frames; but put in full sheets of foundation and prevent your bees from building that worst nuisance of the apiary—namely, drone-comb. The man with a few colonies may have time to fuss with starters; but if you have many hives to care for, the sooner you cut out this starter business, and the shifting around the apiary of brood, the better it will be for your net income. The earlier in the spring you can have every hive in your apiary, and every comb in those hives filled with worker-brood, then keep them so to the end of the season, the less reason you will have to worry about poor honey seasons and over-stocking. We have never had a strong colony of bees backed up with a hive full of worker-brood fail to give us a good surplus.

PREPARING FOR WINTER.

Don't neglect to prepare your bees early in the season for winter. This part of the business should here at the North be all finished before September 10. To a certain extent we are preparing our bees all summer for the next season; then when the final finish comes, the last of August, we have but little to do, and I am sure that they will winter with less loss if they have a chance to quiet down and are undisturbed during the fall months.

Don't try to winter weak colonies. If you are anxious to save all you can, then feed them syrup made from granulated sugar as soon as the harvest commences to close, so as to keep them breeding until they are strong in bees. If you attend to them in this way they will often be your best colonies in the spring; but if you can not do this you had better unite two or more together in the fall; for a weak colony in the fall is usually a dead one in the spring.

Don't try to winter a queen the third winter. I am sure it doesn't pay. She is almost sure to die, either in the winter or early spring; and if she lives she is so slow to start brood in the spring that you will have a weak colony until mid-summer; and it will require more valuable time to build it up than three queens would cost.

Don't fail to keep your bees as warm and comfortable as is possible during the first four or five weeks after taking them from their winter quarters. We contract the entrances of all colonies to 3/8 by 1 or 2 inches. In doing so it prevents robbing to quite an extent, and helps them to enlarge their brood-nest, which is very important at this season of the year. We also try to retain all the heat we can at the top of the hive. We put a piece of canvas first over the top of the frames, then a board under cover, cleated so as to form two dead-air spaces; then our outside telescope top, which is kept well painted so as to prevent any rain from entering the hive. You may think this is taking more pains than is necessary. We think it has much to do toward helping the bees to give us a nice surplus during the summer.

Don't put your bees into winter quarters that will subject them to unnatural conditions. If you do you will lose many colonies, both during the winter and spring. It is almost impossible to save a colony that has been poorly wintered. We may talk and write of the thousand and one different things connected with successful bee-keeping; but when they are all summed up the whole combined is not of as much importance as perfect wintering. We could make more money the following season from strong colonies when taken from their winter quarters if they were in nail-kegs than could be made from little, weak, sickly colonies in the best hive that was ever constructed.

I will close by saying, before I run off on the subject of wintering, that close attention to all things connected with your bees is the magic word that unlocks the door to success in bee-keeping.—Gleanings in Bee-Culture.

Feeding Bees Diluted Honey and Sugar Syrup for Winter Stores

TRANSLATED BY J. G. BAUMGAERTNER.

Coming across an article on some very interesting experiments along the lines of winter feeding with diluted honey and sugar syrup, by Mr. J. H. Clasen, of Wisconsin, in the Acker und Gartenbau Zeitung, I think it worth while to translate it for the benefit of the readers of the American Bee Journal. Mr. Clasen says:

"In writing this I am well aware of the opposition I shall arouse, for most apiarists consider this method of feeding bees as objectionable, and detrimental to the health of the bees. Yes, even more. Until recent years I have myself held the erroneous idea that such feeding was an impossibility, until I have been convinced by repeated tests, that this way of feeding is entirely harmless, and under certain circumstances even recommendable.

"In order to place my experiments and their results or failures plainly before my readers, I am obliged to reach back.

"About 16 years ago an old apiarist told me that in his home in Bohemia, many bee-keepers feed their light colonies in mid-winter by filling a wine-bottle with diluted honey, tying a coarse cloth over the mouth of the bottle, and inserting this bottle, mouth downward, into a hole in the top of the hive where the bees had access to it.

"This matter seemed worth a trial, and having 2 colonies in the apiary in a condition that made their ability to pull through doubtful, I soon proceeded to try on them this method of feeding. They both stood on the south side in an open house-apiary. I wrapped the bottles in cloth to protect them against freezing. The bees really took a part of the food, but as, in spite of the wrapping, it cooled off too rapidly, they could not take it all. Both colonies died the following spring from dysentery.

"A few years later I conducted another experiment. This time I made preparations for it in the fall, by cutting a hole about 3 inches in diameter in the honey-boards on the hives intended for the experiment. The circular blocks cut out of these boards I nailed on a 5x5-inch piece of board each, and replaced them in the opening. The bees soon closed the saw-kerf with propolis, leaving the honey-boards practically sound. The hives were now placed in protecting-cases, with chaff-packing, and a super put on the hive when the hood of the protecting-case was put on.

"That winter I used 1-quart Mason fruit-jars for feeding. I filled the jars with two parts of extracted honey and one part of warm water, tied a piece of coarse linen over the opening, inverted the jars, and set them in the holes in the honey-boards. I re-heated the food by wrapping a few hot bricks and placing them in the super around the jars. As near as I could judge, the bees were near starvation when the food was given, and they took it all down in 24 hours. But also the results of this experiment were no success, for in a few days the hive-entrance was almost clogged with dead bees. They were fed three times during the winter, and after every feed I found a number of sticky, dead bees on the bottom-board. The surviving bees in these colonies (I had fed several) came through the winter in a very weakened conditon, and, in spring, showed signs of dysentery.

"Discouraged by the non-success of this experiment—from which I had anticipated good results with a high degree of certainty—I ceased all further experiments with liquefied food in outside-wintered colonies. And I believe, even now, that this method of feeding outside-wintered colonies is ill-applied.

"Still, I have reaped some benefits from these tests, for my attention has thereby been called to the convenient way of feeding bees by means of a jar, and I have since fed all my colonies with the above-mentioned hole cut in the honey-board. In performing the after imperative spring feeding, I simply set a jar of warm food (closed as above) inverted into the hole in the

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honey-board on the hive, and wrap an old cloth around it. In warm weather this is sufficient protection. However, if the weather is cool and windy, I put on a super and slip the hood down over it. In mild weather the bees take the food down in a few hours. I also use this method when feeding in the cellar, of which I shall now speak.

"A few years after my unsuccessful experiment, I read in foreign papers that bee-keepers water their bees in winter. I concluded that if that disturbance did not harm them (I erroneously thought that the cause of my failure was due to the disturbance of this feeding to the bees), no harm can come from adding some honey or sugar to the water, thus feeding the bees at the same time. I now have a well-equipped, dry bee-cellar, and had, in previous years, fed the cellared bees liquid food; but never before near spring and after a previous cleansing flight. I now concluded to try this feeding before a cleansing flight, in winter.

"For this purpose I took, in the fall of 1904, 3 colonies into the cellar, each having about 10 pounds of honey. On Feb. 1, 1905, I gave each of these colonies about a quart of a mixture consisting of two parts clover honey and one part water. The bees took this food in about 6 hours, and remained very quiet in the dark cellar. In 2 weeks this was repeated with the same results. About 3 weeks later I gave each colony about 2 quarts in 2-quart jars. This time it cooled before the bees had taken it all. After the jars were about half empty, I took them, heated the food, and then returned it to the bees, when in about 24 hours the last drop was taken out of the jars.

"On March 28, 1905, these bees were taken out of the cellar. They had brood in all stages, and no sign of dysentery noticeable. However, they had to be fed once more during spring. But they were the first of 91 colonies wintered, to cast swarms. One of these colonies swarmed on May 28—unusually early for this locality.

"Encouraged by these results, I purposely placed 16 light colonies in the cellar, in the fall of 1905. The amount of honey present in these colonies varied from 10 to 12 pounds. The first feed, consisting of 2 parts of white sugar and one part of water, was given them on Feb. 14, 1906. I gave each colony a quart of this mixture. In about 2 weeks another quart of sugar syrup was given each colony. This time 2 of the colonies refused to take the food, the remaining 14 colonies taking it in the usual way. About the middle of March the feeding was repeated, and at the end of March once more. In all, these 16 colonies were fed about 145 pounds of sugar syrup. Since about 1-3 was water, the cost of wintering the 16 colonies was about 6 pounds of sugar and 11 pounds of honey per colony.

"On April 2, 1906, these colonies were taken from the cellar. The two colonies which, after the first feeding, refused to take more food, were found very weak in number of bees, but the other 14 colonies were in excellent condition, and swarmed very early. Each of these colonies was in every respect equal to any of the other 91 colonies wintered on combs of honey. Last fall, I placed several exceedingly light colonies in the cellar and began feeding very early. I shall report the success or failure next spring."

New Memphis, Ill.

The Cause of American Foul Brood

BY DR. G. F. WHITE, PH. D.,
Expert in Bacteriology.

For several reasons much confusion exists as to the present status of our knowledge of bee-diseases. It is hoped that this circular will give information which will to some extent clear up the subject of American foul brood from a bacteriological point of view. The symptoms of this disease are given in Circular No. 79 of the Bureau of Entomology, entitled, "The Brood Diseases of Bees." American foul brood is the prevalent disease in America, and, judging from reports received from Europe and from descriptions in European bee-journals and books, it is the prevalent one there. There is another diseased condition, which Cheyne examined, and to which we now refer as "European foul brood."

When the author began his work on bee-diseases, in the summer of 1902, he observed, in combs containing American foul brood, in the dried remains of the dead larvæ, known as the scales, a very large number of spores which failed to grow when inoculated into the media ordinarily used in the laboratory. It was clear, then, that these spores are not *Bacillus alvei,* and that this disease is not the "foul brood" of Cheshire and Cheyne. The following year the study was continued and a medium was devised in which the spores found in this disease will germinate. This medium consists of an agar made by following the directions ordinarily used in the laboratory, with the exception that bee-larvæ are substituted for meat. By the use of this medium were obtained pure cultures of the microorganism which is found so abundantly, in the form of spores, in the dried scales of American foul brood.

In reporting these findings the author referred to this organism as *"Bacillus X."* Further study was subsequently made, and the species was given the permanent name *Bacillus larvae.* The description of this species may be found in Technical Series No. 14 of this Bureau. In his publications the author has made no claim that *Bacillus larvae* is the cause of American foul brood, but has made the statement that it is found to be present in all the samples of this disease which have been examined by him. No inoculation experiments were made, for the reason that sufficient cultures in suitable condition could not be obtained from any medium then known.

Since the media used in former investigations are not suitable for obtaining cultures for purposes of inoculation, in taking up the further study it has been necessary to devise a medium which would be satisfactory in this respect. Such a medium has been discovered, and large amounts of the culture suitable for experimental inoculations have been obtained. This medium is prepared and used as follows: Healthy bee-larvæ or young pupæ are picked from the comb, crushed, strained through cheese-cloth, diluted with 20 to 50 times their volume of water, filtered through ordinary filter-paper, and then passed through an earthenware filter (the Berkefeld filter is satisfactory) to remove any bacteria which are present. The sterile filtrate thus obtained may be filtered into tubes or flasks and stored until needed. When *Bacillus larvae* is to be isolated, a tube of the ordinary agar of the laboratory is liquefied and cooled to 45° or 50° C. Then adout c.c. of the filtrate mentioned above is added to it. A very small amount of the decaying larvæ affected with American foul brood is then added. The procedure from this point is as usual in making agar plate cultures; these plates are afterward incubated. When a large amount of culture is desired for experimental purposes it is convenient to use the ordinary agar medium in large test-tubes to which has been added, as above, about 2 c.c. of the sterile larvæ filtrate. These agar tubes are then inclined and the surface of the congealed agar is inoculated. In no case should the larvæ or filtrate reach a high temperature. The object, of course, is to obtain a medium which contains the food constituents which are afforded the bacteria in the living larvæ.

Inoculation experiments have been made by feeding to a healthy colony the scales from combs which had contained brood affected with American foul brood. The result of the feeding was that the colony became affected by disease, the symptoms of which were the same as those observed in the apiary where American foul brood is found. Like symptoms have been produced by feeding scales which had been put into ordinary meat bouillon, incubated for twenty-four hours, and then heated to 65° C. for twenty minutes.

On microscopic examination of the decaying larvæ dead from the disease thus produced experimentally, the same large number of spores and rods are seen as when samples are examined which are taken from an apiary affected with American foul brood. From these dead larvæ pure cultures of *Bacillus larvae* were obtained from plates, using These experiments show that by the feeding method the disease may be produced and that the contagion is found in the scales. The second experiment tends to indicate the cause of American foul brood as found in the scales is not killed by heat at 65° C. applied for twenty minutes.

Up to the present time there is no authentic record of this disease having been produced by experimental inoculations of pure cultures.

Knowing that by the feeding method the disease may be produced, pure cultures of *Bacillus larvae* have been mixed with sterile sugar syrup and fed to healthy colonies with the result that

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the disease appeared in the colonies within 3 weeks with symptoms identical with those produced by feeding the scales of the disease. In the ropy brown mass of the decaying larvæ in the disease which is produced experimentally by feeding pure cultures of *Bacillus larvae* there are found the same large number of spores and rods as when the disease is found in an apiary. Pure cultures of *Bacillus larvae* have been obtained from the larvæ dead from the disease produced experimentally by feeding pure cultures of *Bacillus larvae.*

Some European investigators of brood diseases omit the symptoms so that it is imposible to tell which disease they are investigating. Their descriptions of micro-organisms also are entirely too brief. These facts have led to much confusion, and they necessitate much additional work on the part of other investigators. They have also added to the present confusion. From what can be gained from their papers, the author is inclined to believe that Burri has been working with *Bacillus larvae* and has been referring to it as the "bacillus difficult of cultivation;" that Maassen has been working with *Bacillus larvae* and has been referring to it as *Bacillus brandenburgiensis,* and that von Buttel-Reepen has referred to *Bacillus larvae* as "*B. burri.*" It is hoped that this confusion may soon cease to exist.

In the study of *Bacillus larvae* on this new medium some interesting additional facts have been observed in the morphology and cultural characters of this organism which will be given in a bulletin from this Bureau in the near future. One fact is mentioned now because it seems to have caused one German investigator, Dr. Albert Maassen, to fall into error in the interpretation of certain findings. This fact is that this species, *Bacillus larvae,* produces a large number of giant whips. (Giant whips are at present believed to be in some way a modification of flagella, the motile organs of bacteria.) These giant whips appear in pure cultures of *Bacillus larvae* and persist there for a long time. The structures which Maassen evidently saw and reported in two different publications, naming them *Spirochacta apis,* are nothing other than giant whips which normally belong to *Bacillus larvae* and which are formed by the growth of *Bacillus larvae* in the larvæ of the bee.

Maassen seems to have no further evidence that the structures which he saw are spirochætes than what could be gained by a microscopic examination of the remains of the dead larvæ which had suffered from this disease. The appearance which he interprets as a spirochæte in the process of division can be seen in the giant whips obtained from pure cultures of *Bacillus larvae.* These giant whips are found in the decaying larvæ which are dead from American foul brood experimentally produced by feeding pure cultures of *Bacillus larvae.*

The author has observed these structures in a large number of examinations of American foul brood, especially in the hanging-drop preparations made directly from the dead larvæ. There is nothing else contained in the dead larvæ which can be seen that resembles a spirochæte, and since Maassen made no mention of the giant whips found there so abundantly, it is quite certain that he has made this mistake.

This preliminary note will be followed by a bulletin which will contain in full the results of recent investigations by others on the brood disease of bees and a detailed account of the work done here.

The results may be summarized as follows:

(1) In previous publications the author has made no claim that *Bacillus larvae* is the cause of American foul brood.

(2) A medium has been devised by which cultures of *Bacillus larvae* may be obtained in large quantities suitable for experimental inoculation. This medium consists of the sterile filtrate obtained by diluting and filtering the crushed bodies of bee-larvæ through a Berkefeld or other fine filter.

(3) American foul brood has been produced by feeding pure cultures of *Bacillus larvae,* and the symptoms of the disease are the same as those produced by feeding the scales of this diease and as those observed in the apiary where colonies are affected with this disease.

(4) The structures described by Doctor Maassen, of Dahlem, Germany, as spirochætes and named by him *Spirochacta apis* are not spirochætes, but normal structures produced by the growth of *Bacillus larvae.* These are known in bacteriology as giant whips.

Washington, D. C.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Shallow Divisible Hives—What Depth Should They Be?

Mr. Louis H. Scholl:—I have been interested in your mention of the divisible-brood-chamber hive. I have used principally the 8-frame dovetail for an extracted-honey hive, and like it quite well. But for a few years I have used some hives that were the same size except that they are just 7 inches deep. I like them, and think of putting in an entire apiary in that size of hive. One or two of them make a good winter hive, and in the honey season I would tier up as far as necessary. I think the bees ripen a super of these combs so that only ripe honey will come from them better than they will supers of greater depth. I would like to know what objection you would have to this depth in comparison with the one you are using?

I hope to get out to Texas some day to see the country, but it is so big I fear I would not get over much of it.

Referring to the above, I think of using Hoffman style of frame, closed-end only 2 or 2¼ inches. What would you recommend? Harry Lathrop.

Bridgeport, Wis., May 16.

Localities differ! So do bee-keepers! Yet, *I* do not think that locality makes much difference with some kinds of hives, as *some* are more adapted to all kinds of localities than are others.

The right kind of management must go with the hive, however. Do not try to handle shallow, divisible, brood-chamber hives like you would a deep-frame hive. Leave the handling of combs behind, and handle the shallow chambers. The combs need hardly ever be handled except when the honey is to come out of them in the extracting house. You would not handle sections individually, and brush off the bees in the apiary, but take off by supers full.

The 9-inch depth hive is too deep for me to accomplish *just what I want.* I have tried it, and the Danzenbaker and Acme hives. It is very rarely that I use only one section, (as I call all of my shallow hive-bodies), for a brood-nest, except once in a while for hiving shaken swarms; but even then an empty one is placed beneath it and soon becomes half of the brood-chamber proper. Two or more sections are always used throughout the greater part of the entire season, and for the majority of my colonies. The bees generally winter in 3 sections, the upper one containing honey.

The Ideal sections I use for my hives are the regular shallow extracting supers on the market, with shallow 5⅜-inch deep Hoffman frames, V-edge end-bars, the kind I would recommend after trying all kinds of frames thoroughly. The only trouble with these regular-style frames is that the top-bars are too wide. I am using and prefer one only ⅞-inch wide and ½-inch thick, full, and no groove for inserting foundation, as this only weakens the top-bars. The groove is not needed for fastening foundation, especially since our frames are used again and again in bulk comb-honey production, after the comb has been cut out. This should cheapen the frames all around, as they are easier to make than those put out now. I shall have several thousand more made this fall.

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Such a depth frame will take regular-sized sheets of super-foundation to fill them, and saves bothering about odd-sized foundation often causing much worry. In fact, our idea should be to have everything of standard size, so that we can get it whenever and from wherever we want it.

The 10-frame hive is to be preferred for all localities in the South, and *I* would use the 10-frame divisible brood-chamber hives in the North, for these can be made into the largest hives, or contraction can be practised at will, and better results obtained than with an 8-frame hive. Two of the sections for a brood-chamber, as I am using them, are just the same size as the Dadant hive, or the Draper or Jumbo barns. The advantage over these I claim to have, is that I can manipulate my brood-chambers and accomplish results that can not be obtained with deep-frame hives.

Two of the sections make an ideal shaped hive for winter, deeper than the Langstroth. As spring advances and honey comes in freely from fruit and other bloom, room is given, *not on top*, causing the bees to clog the brood-nest, but a section of empty combs is slipped in between the lower and upper sections of the brood-chamber, thus moving the upper one, already partly filled with honey, to the top as the super. Here it is completely filled later, and the bees remodel their brood-nest in the two lower sections.

If this is done just preceding the swarming period it will knock swarming in the head to a greater extent than anything else I have been able to find. The secret is to break up the solid mass and crowded condition of the brood-nest, and I know of no better and easier way than simply to slip a section of empty combs between the two halves of the brood-nest. It provides laying-room for the queen, and room for the bees, and you have stronger colonies instead of swarms.

And when the early white honey-flow comes the brood-nest is in an ideal condition for it — free from honey, which has gone up into the super, and filled with brood. Now, the comb-honey super with foundation is given—*not on top*, but again in between that ideal brood-chamber and the full, shallow extracting super. The bees are used to storing above, there's no honey in the upper part of the brood-combs, and you had provided breeding room for a strong colony for this flow. So what happens but that the bees go to work immediately, and with a vim not possessed by colonies treated in the old way? And is there any better way to accomplish this? Can it be done so satisfactorily and easily with any of the deep-frame hives? I can not do it.

Yes, and when removing honey, more all-ripe honey can be removed sooner, and a better quality can be produced, especially of bulk comb honey, as much thinner foundation can be used in full sheets, or if starters are used, less drone-comb is built, which is very "gob-by" in comb honey. For extracting combs I prefer them. They are easier to free from bees, easier to uncap, and two of them go into the 11-inch baskets of the extractor.

After reading my manipulations thus far, you will readily see that anything deeper than my sections would be too deep. There's too little difference between the 7-inch and the Langstroth. A 10-frame 7-inch section would be too heavy for one when full; too deep for me, as, in the majority of cases, it would be too much room to give at one time to obtain best results, especially for slipping between the sections of the brood-chambers in spring.

Then, a 7-inch extracting super left on top would take too much honey to fill before the white honey-flow before the bees work in the comb-honey supers. And, again, two of the sections then comprising the brood-chamber would be too deep, and much of the white honey would go into the upper brood-combs.

There are other reasons why I prefer the shallower hives.

The Death of L. Stachelhausen

Through the death of Mr. L. von Stachelhausen, the bee-keepers of Texas, and of the entire bee-keeping world, have sustained an irreparable loss, and never before have the Texas bee-keepers mourned a greater loss. Mr. Stachelhausen had a world-wide reputation among bee-keepers, not only contributing much to the literature on bee-culture of this land, but in Europe also.

L. STACHELHAUSEN.

His loss will be felt there as much as here in our own country.

Ever ready to impart information, and to lend assistance to further his beloved pursuit—apiculture—he gained the friendship of all who knew him. He was ever an active member of the Texas Bee-Keepers' Association, and its members feel greatly the loss of a fellow bee-keeper and a friend from their midst.

At the last meeting, in July, at College Station, a half-hour memorial service on the forenoon of Wednesday, the 24th, was held by the convention in commemoration of his death and his departure from among those who held him in their highest esteem. He was praised and honored by all who knew him, and the following resolutions were adopted:

"WHEREFORE, It has come to the knowledge of our Association that our beloved friend and brother bee-keeper, L. Stachelhausen, has very recently been removed by death from our midst, we deem it the bounden duty of this Association to make some fitting memorial; therefore, be it

Resolved, That we, the Texas bee-keepers in convention assembled, bewail the loss of our esteemed, brilliant and honored member, and while we deem it an irreparable loss to the Texas bee-keepers, as well as to the bee-keeping world, we bow our heads in humble submission to the will of the Great Ruler of the Universe, who doeth all things well.

We would luminate the life of our deceased brother in that he lived a life of honor, usefulness and sobriety; that he was a lover of the cause and calling he had espoused; that he lived a life of devotion wholly for the good of others. It was always his pleasure to attend our meetings, and today we miss his kindly face, we fail to hear his cheerful words, and a vacant chair stands among us. It is also

Resolved, That a copy of this resolution be spread upon a page of our minutes and that that page be bordered in black; and that a copy of it be also sent to the bereaved family, and to the various bee-papers for publication.

Respectfully submitted,
LOUIS H. SCHOLL,
W. H. LAWS,
C. S. PHILLIPS,
Memorial Committee.

How Does the Queen Fertilize the Eggs?

This question has not yet been answered. It has been held that compression on the queen's abdomen in the act of laying will cause fertilized eggs to be laid, but I do not believe that there is anything in it. There are several reasons for this. First, when a queen lays in newly-built comb with cells only ⅛-inch deep, there can, of course, be none of that so-much-talked-about compression of the abdomen. Neither is there such when eggs are laid in queen-cells, most of which are very wide-mouthed and shallow when the egg is deposited in them.

In a recent issue it was hinted editorially that perhaps the depth of the cell has something to do with the position of the queen when laying. It was thought that there may be something in this as regards the difference in depth of drone-cells and worker, the latter being shallower than drone-cells. As the writer had never seen that eggs were laid in shallow drone-cells or before they were fully drawn out it might be true.

But, are not, in most cases at least, the cells of a comb all of about the same depth as long as they do not yet contain brood, the drone-cells being later drawn out longer than the worker

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when the brood is capped? Then, too, I have seen eggs laid in drone-cells considerably shallower than the worker-cells on the same comb; the drone-comb being in batches at the lower corners where the comb is generally more or less rounded off.

And, again, I have seen eggs in newly-built drone-comb with cells only 1/4-inch deep, and the cells were only later drawn out full-depth. Anybody can try this during early summer, when the queens are anxious to lay drone-eggs, by simply giving an empty frame in the brood-nest.

And all this goes against the "compression of the abdomen" theory, and that of the different depths of the cells.

Poison for Mice.

Strychnine is extremely bitter, and mice or rats are not fond of it. The following has proved very useful with me: Take one part flour, one part sugar, and one part arsenic: mix thoroughly, and place in hives or where the mice pass, and they will disappear very fast.—J. E. Crane, in Gleanings.

Virgin Queens Do Not Always Fight.

Editor Root gives an exception to the rule, perhaps first one on record. He says in Gleanings:

"Not six weeks ago we found in one hive nearly a dozen virgins on one frame, living peaceably together. It was a case where a lot of cells had been given to the colony to complete, and they had hatched before the apiarist got around to them. Some of the queens were from 2 to 3 days old, and yet there they were all together like a happy family."

Closing Entrance When Moving Bees.

When moving bees, cut a strip of burlap 2 or 3 inches wide, the length of the entrance to your hive for each colony, and when ready to close them, leave these pieces in a pail of water. Crowd one into each entrance with a jack-knife; better than sticks, screen or anything I ever used. No hammering to disturb the bees, and the moisture tends to quiet them, as well as being much the quickest way. Try it.—American Bee-Keeper.

Tarred Felt Not Always Desirable.

S. D. Chapman found it an actual detriment, the bees being warmed up by the dark color, and flying out on days when it was so cold that they were lost. In the Bee-Keepers' Review, Editor Hutchinson comments:

"If the location is exposed and windy, I can see that the results might possibly be like those reported by Mr. Chapman, but in the sheltered locations where my brother and myself have used this kind of protection we have always found it a decided advantage."

Roasting Out Wax-Worms.

Combs infected with larvæ of the wax-moth are set out in the sun against some obstacle so that there are no sheltered parts under which the "worms" may hide from the sun. Then watch them "hike out," and the sun gets them, leaving the combs free of the pest. Don't leave the combs out too long or in too hot a sun or they will melt. Hundreds of combs have thus been "disinfected" in this way in our yards.—Louis H. Scholl, in Gleanings.

Shaken Swarms.

Under this title, F. Greiner, in the American Bee-Keeper, gives an excellent summing up of points, among which are the following:

Some bee-keepers brush all bees from the brood-combs and place the beeless combs on top of other colonies; some leave bees enough on the combs to take care of the brood, and thus form a new colony, giving the motherless family either a queen or a ripe cell; which latter answers just as well. Some bee-keepers give the brushed bees a little brood to hold them.

All authorities on shaken swarms agree that the bees ought to be made to fill themselves with honey before they are shaken or brushed from their combs.

After a swarm is shaken, dissatisfaction sometimes arises among the masses, possibly also among the royalty, although I don't think that occurs. I think the queens are subject to the workers and must go if they so decide. When the masses become dissatisfied with the conditions as the bee-master (?) has aranged matters, they just pull out. They seem to think that they can lose nothing, so there they go. If the queen is able to fly, and nothing else hinders her following the bees, our hive will be found empty of bees when next we make them a visit.. They may swarm out after 3 or 4 days. I hardly consider the same safe before the seventh day. When the queen is clipped, of course she cannot go with the bees. After sailing around they decide to come back, for really they have no other place to go. The queen crawling about in front of the hive enters it also when the bees return.

I have watched many swarms with clipped queens, and I never saw one go astray. Hives, however, must not stand close together, and the alighting-board to each must reach the ground; otherwise there would probably be trouble.

Prevention of Swarming.

E. F. Atwater gives in The Bee-keepers' Review, the Rauchfuss or Aikin plan of preventing swarming, which Mr Rauchfuss says will give more honey than any other plan—at least for arid belt conditions—the chief fault that Mr. Atwater finds with the plan being that sometimes a colony is left hopelessly queenless by the failure of the virgin to return safely from her wedding trip. He says:

"Put most of the brood in the lower story of the hive, on this a queen-excluder, on this a second story, with one frame of bees, brood and the queen, the balance of the combs empty or containing some honey.

"Brood-rearing will leap ahead in this upper story, receiving the heat from the mass of brood and bees below. The bees can't swarm, as the queen can not pass the excluder. Nine or 10 days later, set the upper story containing queen, bees and new brood, off to a new stand. The hive on the old stand now contains only *sealed* brood. Destroy the queen-cells, if any, give a ripe queen-cell, or run in a virgin queen, and put on the supers. The bees will not swarm, as they have no eggs or larvæ from which to start queen-cells.

"As soon as the young queen begins to lay, the honey will go up into the supers in a rush. For some conditions the method may be better than forced swarming as usually practiced; for the hatching brood reinforces the field-force for about 10 or 12 days after the old queen and her hive of new brood is removed to a new stand."

Value of Protective Surroundings.

Over at Port Huron, where I met my Waterloo last spring, there was a sheltered nook at one corner of the yard. The wagon-shed, the barn, a high board-fence, and one or two big apple-trees, all combined to shut off the cold north or west winds. Scarcely a colony perished in that sheltered nook; and even of those that lived, not one was as strong, when I moved them away, as were most of the colonies in the sheltered corner of the yard. Away out in the field, beyond the influence of this shelter, scarcely a colony was left alive, and those were weaklings. It seems strange that some of us are so long in learning the true value of outside protection in the winter and spring.—Bee-Keepers' Review, p. 200.

Strengthening Weak Colonies.

The Alexander plan of putting weak colonies over an excluder on a strong colony in spring seems to be gaining in favor. It appears that if the two colonies are stirred up at the time of putting together, the bees of the stronger colony kill the upper queen. To avoid this some allow a wire-cloth between the colonies for about 2 days, thus allowing them to gain the same scent before the bees from below can get above. Others gain the point by doing everything so quietly that the bees of the two colonies are not likely to get together for some little time.

The Canadian Bee Journal reports,

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page 208, that E. P. Adams "says he was at first disappointed with the plan, and had stated so, as the queen in the weaker colony was almost invariably killed and the 2 colonies merged into one below. He has since found, however, that the lower colony must be really a strong one; it does not matter much how weak the upper one may be, so long as it has a laying queen. He puts them together in the evening, or toward evening, when they have about ceased to fly, and without using smoke or jarring them at all. To assist in this he makes all possible preparation early in the day, placing the queen-excluder on the top of the strong colony, leaving off the cover, etc. He is also careful that the weaker colony is in proper shape, the hive-body made loose on the bottom-board, and all ready to be lifted and placed on the top of the other. He says that these points all go toward the success of the plan, and that he is highly pleased with the results.

Send Questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Late Swarms

1. Why don't my bees swarm? If they have swarmed we don't know it. They were very weak when we put them out in the spring. They come out once a day and have their "play," as I call it, but go back in again.

2. Would they need to be fed if they swarmed now, or would they gather honey enough for themselves?

MINNESOTA.

ANSWERS.—As you say, they were weak, it may be that is sufficient reason for their not swarming. It is possible that the poor season may have something to do with it. It also may happen that a strong colony in a good season may be good enough not to swarm. A number of my colonies make no offer to swarm each year, and I wish they were all of like mind. My biggest yields come from these non-swarming colonies.

2. If there is a good fall flow they ought to get their winter stores; otherwise not. In any case it is good practise to feed when a swarm is first hived. If bad weather should happen at the time, it would be a setback without such feeding.

Too Many Drones

1. I bought a colony of bees last spring, and there are now about as many drones as worker-bees. We would like to know how to get rid of the drones.

2. How can we prevent so many drones being reared?

SOUTH DAKOTA.

ANSWERS.—1. Excluder-zinc in some form will help out. If you have not a regular drone-trap, use enough excluder-zinc to close the entrance at a time of day when the drones are flying out. Then in the evening you can easily catch them, feed them to the chickens, or dispose of them in any way you like.

2. The easiest way to prevent a large number of drones is not to have much drone-comb in the hive. To make sure against it, a great many think it best to have frames filled with worker-foundation, thus securing worker-combs in all the frames. If you have frames largely filled with drone-comb, supply their places with better. If there are patches of drone-comb, cut out and fill the holes with worker-comb or worker-foundation. You may also slice the heads off sealed drone-brood, or sprinkle salt or salt-water on the unsealed brood.

If the drones are as numerous as you indicate, I'm afraid it may be a case of laying workers. See if the sealing of worker-cells, instead of being flat, is raised like little marbles. If so, it is a case of laying-workers, and the best thing is to break up the colony.

Few Drones—Dividing Colonies

1. My bees have had no drones to speak of this season, except on 2 or 3 days, when I saw 4 or 5 flying from 2 of the hives, and the bees killed them right away. What was the cause?

2. Will bees do all right if put in a nucleus without any queen?

3. I think I would rather have the American Bee Journal every week than to have it monthly.

4. How often can I divide a colony of bees and have them do well?

NEBRASKA.

ANSWERS.—1. The absence of drones may he due to the poorness of the season. Keeping drones is a sort of luxury that bees indulge in when they are prosperous, and when forage is scarce they do not feel they can afford it.

2. No. They would, to be sure, rear a queen, and in time build up into a full colony, but a queen started in a nucleus would be likely to be a poor one. They should at least have a sealed queen-cell given, and then they are likely to be all right.

3. I would rather have it daily, and would be willing to give as much for a good daily bee-paper as I give for a daily newspaper—yes, more. But there are not enough who would be willing to pay a fair price for a daily bee-paper, and so no publisher could in all probability afford to publish it. And I suppose the publishers thought the number who want a weekly bee-paper is very small compared with those who want it monthly, so you and I must be satisfied with it one-fourth as often. But the American Bee Journal costs so little now that we can afford to take another bee-paper or two besides.

4. That depends altogether upon circumstances. In a very poor year once is too often, unless one is careful to feed well, and no feeding is quite so good, either, as getting the natural stores from the flowers. In an extra-good season you might divided a colony as soon as the flow began, and each part might be ready to be divided again in a month, perhaps in less time, and that might be kept up if the flow should keep up.

Moths in Hives

How can I get rid of moths in my beehives? The bees are not working well, for the moths bother them.

WASHINGTON.

ANSWER.—There is no cure for moths better than bees. A strong colony is not likely to be bothered with them, whereas a weak one, especially if it has a lot of combs more than it can cover, will have lots of trouble. But there is a big difference in the kind of bees. A weak colony of Italians will keep off the moth where blacks would succumb. Hybrids are nearly, if not quite, as good as Italians. So if you get in some good Italian blood, your trouble will probably disappear.

Bees Hanging Under Brood-Frames—"Go-Backs"—Supers

1. I have several colonies that hang in great numbers under the brood-frames, so as to show at the entrance. What does it mean? Should I smoke them up into the super or let them alone?

2. When I have "go-backs," should they be put on alone, or will it do to have another super under them ordinarily?

3. How often should supers be looked after, or rather examined, as to how far they are filled?

4. Do you prefer putting an empty super under or over a half-full one? I mean right during a good flow.

5. Would you contract a wide entrance during a cool spell in summer?

NEW YORK.

ANSWERS.—1. One thing it means is that the colony is strong. If they are clustering out during the middle of the day, it may mean that there is nothing afield for them to do. If a colony clusters out while others are at work, it may mean that they are about to swarm, or it may mean they are lazy. In any

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case it will do no good to smoke them in.

2. That depends. If early enough in the season so that you think another super can be finished, a "go-back" may be put on with another super, or even with 2 or more other supers. More than one "go-back" may be put on a colony. Measure the strength of your colony and the strength of the flow, and act accordingly. Late in the season be cautious about asking too much. (It should be explained that a "go-back" is a super filled with unfinished sections taken from a number of supers and put back on a hive to be finished. If you wait till the corner sections of a super are all fully sealed, sometimes it will take so long that the middle sections will be darkened.)

3. Every 10 days is not far out of the way, generally, only make sure that they are never crowded so as to lack storing-room.

4. My practise has been to put the empty one under until near the close of the season. Some good bee-keepers, however, prefer to put them over every time.

5. No. Takes too much work. But if I had only a few colonies, and worked them as a sort of pastime, I might change the entrance according to the weather.

Swarm Spotting Clothes

A swarm that issued recently spotted the clothes on the wash-line. Is it a common thing for swarming bees to spot clothes? I thought it occurred only when the bees have a cleansing flight in the spring? INDIANA.

ANSWER.—I don't suppose it is a common thing, and I don't know enough about it to say why it should have been so in your case. One can imagine, however, that if bad weather had delayed the swarming for a day or more, and the swarm should issue immediately upon the weather brightening up, that the bees might empty themselves a little after the manner of a spring cleansing flight.

Uniting Swarms—Wintering Bees Outdoors—Kind of Bees

1. How can I unite a swarm with one that has swarmed 3 or 4 days ago? (Second and third swarm from the same hive.)

2. How would you advise me to winter my bees, as my cellar isn't very good? How would it do to put them all in a row about 6 inches apart and put straw between them, and over the top of them? Should the hive be left open at the entrance or should it be closed?

3. Enclosed find bees out of 2 colonies, Nos. 1 and 2. Are they the same kind of bees? and what kind are they?
CENTRAL MINNESOTA.

ANSWERS.—1. In such a case there ought to be no trouble if you merely hive the third swarm in the same hive with the second swarm. Both have queens and bees from the same hive having probably the same scent.

2. Your plan ought to work fairly well, of course with some sort of roof to keep the straw dry.

3. I don't know. It isn't easy, indeed impossible, to tell by seeing a single bee what the blood of a colony is. For example, take a colony of hybrids: one worker may be selected that to all appearances is pure Italian, and another that is pure black. Then when you put a bee in a letter and have it mashed in the mail, the case is still more difficult. I can only say that I should guess there is some black blood in each of the specimens sent.

Laying Workers Fill Cells With Eggs

I have one colony of bees in which I find many cells with from 2 to 6 eggs in each. And at the front end of some of the combs there are cells that seem to have 30 or 40 eggs in each. I never saw anything like it before. I could not find the queen. Did laying workers try to fill the cells with eggs? IOWA.

ANSWER.—Almost certainly it is the work of laying workers. You will probably find that if any drone-cells are in the broodnest the nuisances have been specially favorable to them. Also, you will be likely to find one or more queen-cells, and in these there may be as many as a dozen eggs in each. Better break up the whole business, giving combs with adhering bees to other colonies.

Late Transferring of Bees

Last fall I purchased 3 colonies of bees in home-made hives of the Langstroth pattern. I found that the frames were badly made so that the combs were crooked—in fact, they zigzagged in every shape. I left them just as they were, fed the bees steady all winter, and they are good and strong now, but will not get more than enough honey to feed themselves through the coming winter. I would like to get these bees out of the old hives. Would you advise transferring them at this time (August 3)?
ARKANSAS.

ANSWER.—Perhaps it may be as well to leave them as they are till next spring or swarming time. Still, it may be all right to transfer this fall, if you are sure of a good fall flow after transferring.

Requeening Colonies—Spring Protection of Hives

1. If I wish to requeen my apiary without the trouble of hunting the old queens, may I not buy fertile queens of this year's rearing, and place them (in the cages that they are shipped in), in the hives, and let them eat their way out with the help of the worker-bees? And then will not the young fertile queens kill the old ones? Or is the old one likely to kill the young one?

2. I wish to give my hives spring protection. I have read of roofing-paper or felt being used, but would not this plan do? That is, just get some dry-goods boxes (which can be done very cheaply), and both sides and bottoms being made of matched lumber, take the tops off, and invert the dry-goods box over the hive, a sufficient hole for entrance being cut into the dry-goods box to open over the hive-entrance? I figured on no packing of any kind between the box and hive.

3. Would not ordinary oats-straw covered over the hives, leaving an entrance, be good spring protection? Or would a wet spring keep the hives too damp?
WISCONSIN.

ANSWERS.—1. If you put a laying queen, no matter how young, into a colony, leaving the old queen present, you may count on the new queen being killed as soon as she gets out of her cage—no, not killed immediately, but balled, and maltreated till she is dead. The same holds true with regard to a virgin introduced; only if it be late in the season, and the bees have a queen that they desire to supersede, the virgin would be allowed to supersede her. Possibly this might hold good at any time when the bees desire to supersede a queen, and possibly it be as true of a laying queen as of a virgin; I don't know.

2. Your plan may work, but the trouble is that when the sun shines out for a short time, or even for a long time, the bees don't get the benefit of it, the dry-goods box keeping them cool; whereas with the black felt they would be made warmer than with the naked hive.

3. It will be all right if some covering to shed the rain is over the straw, or if the straw is so placed as to shed the rain.

Afterswarms—Cotton Honey for Winter Stores, Etc.

1. After a swarm has issued and has been hived, what shall I do to keep the parent colony from swarming again, or casting after-swarms? Shall I cut out the queen-cells? If so, how long after the swarm has issued shall I do it? After the swarm has been hived, shall I set the swarm, or new colony, on the old stand, and move the parent colony a few feet away?

2. I have only starters in my hives. Would it be advisable to give the new colony a couple of frames of brood from the old hive, or let them draw out the starters and fill up the combs themselves?

3. The queen in the colony is not clipped. Would it do to clip her this late in the year?

4. Cotton is one of the chief crops raised here. I understand it is a great honey-producing plant. Would it do for the bees to winter on? You know it has the peculiarity of expanding and bursting the cells if kept for a while in the combs.

5. What are the names of the different bee-papers that have been started and discontinued in the United States?
OKLAHOMA.

ANSWERS.—1. If you cut out all queen-cells but one a week after the swarm issues, there ought to be no more swarming. But sometimes a queen-cell is so hidden that you will be pretty sure to miss it. Again, the only cell you leave may have only a dead grub

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in it, leaving your colony hopelessly queenless. If you set the swarm on the old stand and move the mother colony some distance away, the swarm will get all the field-force, weakening by just so much the mother colony, making it less likely to swarm. But a lot of young bees are hatching out all the time, building up the colony to such extent that when the first virgin is ready to go with a swarm, which will be in about 8 days, there may be a strong enough force to go with her.

I'll give you a better plan than either: When the swarm issues, put it on the old stand, and put the old hive close beside it. A week later move the old hive to a new stand. That, you will see, will not only drain the mother colony of all the field-bees it had at the time of swarming, but also of all that have become fielders since then, leaving it so weak and discouraged that it will not be likely to have any thought of swarming.

2. Some think it best to give a frame of brood to the swarm—not 2—while others give none. I don't know which plan is best—perhaps giving the one brood.

3. After a queen is laying she may be clipped at any time when most convenient.

4. I have had no experience with cotton honey, but from the fact that I do not recall seeing any objection to it for winter stores I suppose it is all right.

5. That makes me throw up my hands. The number is legion, and I'm not sure that a whole day's searching would make sure of getting them all. Besides, what good? Why not let 'em rest quietly in their graves?

Varying Effects of Bee-Stings

My little girl, 11 months old, has been stung 3 times lately. The first time just below the ear, the second time on the hand, and neither sting swelled much or seemed to cause her much pain. The last time she was stung on the hand, and it swelled very tight, almost to her elbow, and caused her much pain for several hours. The bee that stung her was given her in a poppy by her sister.

1. Why did the last sting swell so much more than the others?

2. Would the fact that the bee had been feeding on the poppy have anything to do with it? The bees work on poppies here in the early morning, and as my children say, they "go crazy" for a short time. They don't seem to bother them in the afternoon.

COLORADO.

ANSWERS.—I don't know. Very likely the place had something to do with it. There is a great difference in the painfulness of stings, and also in the amount of swelling, and it is not easy to say just why in all cases. A sting on one part of the hand may swell more than on some other part. One sting may be deeper than another. One may be left in longer than the other, giving more time for more poison, hence more swelling.

2. If the poppy should make any difference, one would suppose it would have a quieting effect. I don't suppose, however, that the poppy made any difference. Still it is not impossible that it might.

Introducing Queens—Carniolans

1. I was thinking of buying as many queens as I have colonies next spring, and introducing them as Mr. Abbott says, putting the new queen on top of the frames for a day or two, then dividing the colony, putting the new queen in one hive and the old queen in the other. I thought in this way to get two strong colonies from each one. Do you think the plan would be a success?

2. Is an untested queen guaranteed to be mated, and to lay worker-eggs?

3. Do queen-breeders furnish a queen-cage with each queen?

4. Do you think Carniolans are more hardy than Italians for wintering? Would it be wise to cross them?

NEVADA.

ANSWERS.—1. The plan will work. It may be well to leave the old queen on the old stand, putting the caged queen with the larger part of the brood on a new stand. If this is done about the usual time of swarming, or a little in advance, and all the brood is given to the new queen, you will have a shaken swarm, with little danger of the old queen swarming again.

2 and 3. Yes.

4. I'm not sure, but I don't believe they are hardier. If you have an apiary of pure Italians, better try any sort of crossing only on a small scale until you are sure you will like the cross better.

Why Use Improved Hives?

I am not a young man in years, but am young in the knowledge of bees. I keep bees only for the honey I can get. What use is there for me to use patent hives when I know nothing about them? Why is not my old-fashioned gum with a good big, plain box-cap just as good for getting the same amount of honey in a season as the patent hives?

MISSOURI.

ANSWER.—Let me say, first, that most of the hives in use now by practical bee-keepers have no patent on them, the patent on the Langstroth movable frame having expired some years ago. So your question probably is, What advantage is there for you in movable-frame hives over common box-hives? Perhaps there is no advantage. It depends upon circumstances. The movable-frame hive is no better for the bees than a box-hive; in general not so good. It has really only one advantage over a box-hive, but sometimes a single advantage counts for much. A man with his head on has the single advantage over one with his head cut off that he still has his head on; but that is a considerable advantage. The one advantage that the movable-frame hive has over the box-hive is that the frames can be taken out and put back again. But that advantage is of no value to those bee-keepers who never lift out the frames from one year's end to the other. If I had no notion of ever lifting out a frame, I would prefer box-hives.

Possibly you may want to know what advantage there is in being able to lift out frames. For one thing, you can tell by lifting out the frames whether a colony is queenless or not, and if it is queenless you can remedy it. With a box-hive it is practically impossible either to detect or to cure queenlessness. That one difference between the two kinds of hives is enough to decide in favor of the movable-frame kind,—provided one intends to take advantage of the movable feature. It would be a pretty long story to tell all the things that can be done with a movable-frame hive that can not be done with a box-hive, among which are examining for disease and treating for the same, introducing queens, strengthening weak colonies by giving frames of hatching brood, etc.

Starting New Colonies of Bees

When is the proper time to start new colonies of bees in this climate—40 miles south of St. Louis? What is the best method for a beginner to take in doing so?

MISSOURI.

ANSWER.—The very best time is at the time when bees are inclined to swarm naturally. Bees begin to swarm when honey begins to yield well, and more or less colonies may swarm so long as honey yields, although most colonies do their swarming during the early part of the honey-flow. You may even make increase successfully in the month of September if you make the new colonies strong enough. The earlier you start a colony the less need of its being strong, as it has a longer time to build up before winter.

It is not easy to say what may be the best way for you. What may be best for one may not be best for another. Perhaps the easiest way is to take half the combs, bees and all, out of a hive and put into another hive, filling out each hive with combs or frames filled with foundation, setting the hives side by side, as nearly as possible on the old location, trusting to the queenless part to rear its own queen.

A better way is to look four days later and see which hive contains eggs, and give a laying queen to the other part. That, of course, involves buying and introducing a queen.

If you want the bees to rear their own queen, here is a better plan: Find the queen, and put her with 2 frames and all adhering bees into another hive on a new stand. A week later a number of queen-cells will be in the now queenless colony, when you let the hives exchange places, and the bees will do the rest. If you want to have more than one new colony, you can divide the queenless part, putting the larger half on an entirely new stand.

As you have just obtained the book, "Forty Years among the Bees," you will do well to turn to page 252, where you will find several pages about artificial increase.

American Bee Journal

Breeding Bees by Selection for Improving their Honey-Producing Character

BY F. W. L. SLADEN, F. R. S.

It is a fact well known to breeders of animals that to obtain and maintain permanent improvement in any character it is necessary to breed strictly by selection from both parents in successive generations. Such breeding by selection has in many cases resulted in great improvements and in the production of many new varieties. Domestic poultry are a familiar example. In the case of bees selection of the male parents has hitherto been practically impossible, at least in this country, in all parts of which ordinary bees are to be found, because pairing takes place upon the wing some distance from the hives, and we cannot prevent some of our queens from pairing with drones from neighboring apiaries.

In my early efforts to improve the honey-producing character of my bees I found no great difficulty in selecting the best honey-producing colonies, and breeding from them in successive generations on the female side; but on the male side I had to content myself with rearing each season a large number of drones of best honey-producing parentage and grandparentage, and eliminating as nearly as possible all drones of other parentage. By this means a considerable number of unions between queens and drones of best honey-producing parentage were effected, but I found very great difficulty in identifying the offspring of these unions, so that in breeding the next generation it was impossible in every case to tell whether outside blood had been included or not, and thus much of the improvement that had been effected was liable to be lost.

In 1905, however, the great difficulty in identifying the offspring of the unions between queens and drones of my best honey-producing parentage was practically overcome by the employment of a method of selection by color. . . . . The object of the present paper is to explain more fully this method of selection by color for the improvement of the honey-producing character.

The common bee of this country, as everybody knows, has the ground color of the body entirely black. In 1901 and 1902 I crossed my bees with selected individuals of one of the best honey-producing strains of the American Golden Italian bee, in which a considerable portion of the abdomen is of a bright golden-yellow color. The result in the second and third generations of the cross-breds was that the queens were exceedingly prolific (in spring), and the bees very vigorous, but in almost every other character these cross-breds were extremely variable. Taking the two characters of color and honey-production, I got—

1. Dark-colored bees that were poor honey-producers;

2. Dark-colored bees that were good honey-producers;

3. Bright-colored bees that were poor honey-producers; and

4. Bright-colored bees that were good honey-producers,

as well as bees that were intermediate between these varieties. The best colonies of good honey-producers produced larger amounts of honey than colonies of ordinary English bees, a fact which I attributed partly to the greater prolificness of the queens, partly to increased vigor, and partly to slight augmentation of the good honey-producing character due to cross-breeding. Some of the best honey-producing colonies were of the brightest color. It was therefore clear that there was little or no correlation between the color character and the honey-producing character—in other words, that the two characters were inherited independently.

My next step was to eliminate all the bright-colored bees except those that were best honey-producers, and to rear queens and drones from the latter only, and these in the largest possible numbers. Thus the only drones of bright-colored parentage that paired with the queens reared were of best honey-producing parentage. These drones considerably brightened the color of their young, and thus it became possible to distinguish, by the brighter color of their young, the queens that had been fertilized by drones of my best honey-producing parentage from those that had been fertilized by drones of variable honey-producing parentage and by drones from neighboring apiaries, all of which produced darker young. This distinction could be made as soon as the first few hundred workers had hatched—namely, in less than a month after the queen was fertilized.

This method of selection by color for the improvement of the honey-producing character was also employed and rendered more precise during the season of 1906.

The laws governing the inheritance of characters in cross-bred plants and animals have always been a puzzle to breeders. Lately, however, they have been carefully studied and much elucidated by Bateson and others by means of elaborate breeding experiments. An excellent account of some of these experiments, with the conclusions they point to, is given in a report to the Royal Society by Prof. Bateson and Miss E. R. Saunders, published in 1902. This important work confirms a remarkable law which was first discovered and enunciated by Mendel as long ago as 1865, as the result of experiments he made in cross-breeding varieties of the garden pea. Mendel's discovery is too lengthy to be given here, but the essential part of it is "the evidence that the germ cells of gametes produced by cross-bred organisms may in respect of given characters be of the pure parental types, and consequently incapable of transmitting the opposite character; that when such pure similar gametes of opposite sexes are united together in fertilization, the individuals so formed and their posterity are free from all taint of the cross." (From Bateson and Saunders' Report, page 12.)

For instance, in the second and later generations of cross-breds between hoary-leaved and glabrous-leaved varieties of the garden stock, Miss Saunders obtained certain numbers of hoary-leaved individuals which, when bred together, were found to be incapable of producing glabrous-leaved individuals, and nearly all the glabrous-leaved individuals that were obtained, when bred together, were found to be incapable of producing hoary-leaved individuals. Atropa (the Deadly Nightshade) was also found by Miss Saunders to obey Mendel's Law in the inheritance of yellow-colored and black-colored fruits. Prof. Bateson found that poultry obeyed Mendel's Law in the inheritance of "single" combs and "rose" combs, and in that of "single" combs and "pea" combs. More recently Hurst has found that poultry obey Mendel's Law in the inheritance of many other pairs of opposite characters. In their Report Bateson and Saunders give a long list of pairs of characters in animals and plants that had, up to 1902, been observed to obey Mendel's Law; one of the most remarkable of these is the waltzing habit and the absence of the waltzing habit in mice.

Bateson and Saunders' work, which only became known to me in the winter of 1905-6, is likely to be a great help in the work of endeavoring, in my cross-bred bees, to obtain individuals with the bright-color character and best honey-producing character that are incapable of transmitting any mixture of the opposite dark-color and poor honey-producing characters to their young. In the case of the bright-color character it is likely that this object has already been attained in some examples. The best honey-producing character is a complex one, and there are indications that it is largely the result of the combination of several characters, and that some of these are more or less correlated to one another, and that others, like vigor, are the direct result of cross-breeding. The best honey-producing character is partly dependent on longevity (of workers), prolificness in late spring (which acts favorably), prolificness at other seasons of the year (which may act unfavorably), and on other characters. It is impossible to forecast how much improvement in the honey-producing character will be obtained when, by cross-breeding and selection, its component parts have to some extent been separated and re-united in new combinations.

The honey-producing character of a certain race or variety of bee may certainly vary very much in different climates. In the climate of some parts of the United States the honey-producing character of the Italian bee is exceedingly good, but in the climate of Great Britain, which during the honey-flow is much colder, more cloudy, and more windy than that of the United States, the Italian bee is not a good honey-producer, and the English bee is a better one. This shows that breeding for the improvement of the honey-producing character in Britain must be carried on in the British or in a similar climate; also that the English bee is a better bee to work upon than the Italian. Crossing the English bee with sufficient Italian blood to enable one to brighten the color for practicing selection by color improves it for the purpose of breeding for the improvement of the honey-producing character, because it gives it increased prolificness in spring, vigor and variability.

In the second and third generations of my cross-breds it was a common thing to find a queen that would produce some

American Bee Journal

individuals (workers and queens) that were quite dark, and others that were as extensively bright-colored as, or even more so than, individuals of the original American Golden Italian strain. Of course these bright individuals had no more of the American Golden Italian blood in them than the dark individuals. It is therefore plain that it is impossible to judge the amount of foreign blood in cross-breds by the extent of the bright color they show, especially in the case of individuals that are the result of selection by color.

Although the bees now bred by color-selection in Ripple Court Apiary differ entirely in nature from any foreign bees, yet in appearance they closely resemble American Golden Italian bees: the queens are superficially indistinguishable from imported American Golden Italian queens, and in many colonies the workers can only be told from American Golden Italian workers by their much more active running over the combs when the hive is opened, and by their generally more distended bodies and sometimes larger size.

To distinguish the brightly-colored bees bred in Ripple Court Apiary for the improvement of the honey-producing character, the name of "British Golden" has been given to them. This name was first applied to the 1906 selections.

As regards the results of the breeding by color-selection in Ripple Court Apiary, it is too early to say much. The honey-producing results of the 1906 selections will not be known until the summer of 1907, so the results of only one season's work, that of 1905, have so far been obtained. These were very satisfactory, and it has become evident that selection by color has already changed the bees from variable cross-breds into a distinct variety with many characters that are fast becoming fairly constant; at the same time a great improvement in the temper has been noticed.

There is a difficulty in the transmission of worker characters through drones besides that of selecting the drones. I refer to the difficulty—by no means great or insurmountable—that results from the theory that the drone is produced parthenogenetically. The workers of a colony inherit their characters through the drone that fertilized the queen of the colony, as well as through the queen herself, but the drones that are produced in the same colony by the same queen inherit their characters through the queen only. The said workers therefore, having a mixture of fresh blood, give a very unreliable indication of the worker characters the drones will transmit to their offspring, and in order to find out what worker characters the drones are likely to transmit we must go back to the colony that produced their mother. In the case of a fixed race or variety, the workers of the colony that produced the drones' mother show fairly accurately the characters that the drones are likely to transmit, but in the case of variable cross-breds, they are not likely to do so on account of variation. In the latter case, if a large number of sister queens are employed to produce drones, the drones may be expected, on the average, to transmit the characters exhibited by the colony that produced the drones' mothers, but drones produced by individual queens might sometimes transmit different or opposite characters: the workers produced by these individual queens would give some indication as to whether they would be likely to do so or not. Therefore in breeding drones it may be well to state, on the assumption that the drone is always produced parthenogenitically, that the characters shown by the grand-parental colony are always of great importance, and that those shown by the parental colony are of some importance in cross-breds, but of very little importance in pure-breds.

—British Bee Journal.

Reports and Experiences

Poor Honey Crop.

The honey crop is poor here. Bees will probably get enough, however, for themselves through the winter,—but no more.

JULES BELKNAP.

Sulphur Springs, Ark., August 3.

Working for Comb Honey.

I have 16 colonies of bees, and am working them for comb honey this season.

I like the American Bee Journal very much. I would not be without it. I find many useful hints and suggestions in it.

M. D. DICKINSON.

Springfield, Mass., August 6.

Nothing from White Clover.

So far white clover has yielded just about nothing. What has been gathered has been used in brood-rearing. Basswood is just opening now, so there is a chance of gettting some surplus yet.

The monthly American Bee Journal is a dandy. If it doesn't succeed it will certainly not be the Editor's fault.

CHAS. O. BERGSTRAND.

Amery, Wis., August 1.

Good Honey-Flow.

We have had a good honey-flow for about 10 days. A day or so ago it seemed to stop suddenly, but it has started again, and we have quite a little honey from the second crop of alfalfa. We have an average of about one super per colony on 175 colonies. This has been a cold, backward season, and I am afraid the honey-crop will be quite a little below the average. We have had 3 swarms from 175 colonies, and they were small ones.

Rifle, Colo., August 3. JOHN STOTTS.

Disappointing Bee-Season.

The bee-season here has been very disappointing up to the present time. We got nothing from the first cutting of alfalfa, but there is a fine scope of bee-pasture here, and the bees are doing splendidly. If it continues good weather for a reasonable time, strong colonies will produce a large surplus of honey.

The American Bee Journal is a good help for the bee-keeper. J. E. PATTON.

Deeth, Nev., August 7.

Worst Spring—Non-swarming Bees.

After the worst spring in the memory of the "oldest inhabitant" the white clover and basswood harvest has come and gone, giving us about 5,000 pounds of honey—about one-half, or a little more, being extracted—from about 155 colonies. The prospects are fair for winter stores, though there may be a little fall surplus honey.

It seems Mr. Hasty does not believe exactly in non-swarming bees, does he? I wonder if he ever had a colony that did not swarm when rightly attended to. And if he bred his stock from it, did the bees swarm as much as those that were bred in the time-honored way of taking a swarming cell from a swarming colony?

When a man is always expressing doubts, it seems to me he ought to give a reason for the doubts that are in him, once in a while. I have never been called an optimist even by my best friend, but I have seen enough of bees to believe thoroughly that a practically non-swarming strain of bees can be bred, and will be developed within the near future. They will save a lot of labor for the apiarist. E. S. MILES.

Dunlap, Iowa, August 2.

Fair Honey Crop Promised.

The honey crop promises to be fair at present. Thunder showers and hot weather prevail. JOHN SEMMENS.

Prowers, Colo., August 5.

Bee-Keeping Slow.

With us bee-keeping is slow. It looks now as though the bees might go into winter with plenty of stores. I am having my surplus honey stored in brood-frames, in shape for feed next spring. N. P. WHITMORE.

Gardner, Ill., August 12.

Not Much Honey.

I have 13 colonies of bees, and have had 8 swarms. I put 3 back into the hives they came out of, and they are staying all right as yet. They are working on sweet clover.

There has not been much honey taken here so far. I have about 100 pounds in sections. It is fine. I have sold all I had and could sell more, to neighbors and friends.

F. S. FOULK.

Arrowsmith, Ill., August 10.

Bees Have Done Well.

The bees have done very well so far. Some colonies having stored over 100 pounds, and are still rolling the honey in. White clover is yet in bloom, and the prospects are for a very good fall flow, if the weather permits.

B. F. SCHMIDT.

N. Buena Vista, Iowa, August 3.

Honey from Alsike Clover.

I have had 12 swarms from my 44 colonies, spring count, and the majority of them have been, and are, doing some work in the supers. They stored some section-honey from alsike clover, which is quite plentiful here, and they are now working on every little patch of white and sweet clover they can find; but the total product will be small at best. A. F. FOOTE.

Mitchell Co., Iowa, August 12.

Bad Year to Work with Bees.

My bees are getting honey now from the goldenrod. The comb honey is nice that I have taken so far. I expect my bees will average about 100 pounds per colony this year, but I do not know exactly yet.

This has been the worst year I ever saw to do anything in the bee-yard. Either the wind blows, or something else interferes. It has also been the worst year to mate queens. I have reared all young queens this year, and am in a bad place to mate them. There are Carniolans on three sides of me, and I think they have a little yellow mixed in with their gray. Mine are all pure Italians now, and I am hoping to Italianize all of the bees around here next spring.

PERLEY S. SMITH.

Strong, Maine, August 15.

Yields of Honey.

Some correspondents seem to take exception to some of the honey-yields I quoted in my article to The Farmer, as mentioned on page 534. This is only what might be expected, as every bee-keeper measures the yield of every other bee-keeper by his own yields. But the honey crop more than any other crop is apt to vary according to the management of the bee-keeper.

The yield of honey from a field of buckwheat, which I mentioned, is an actual experience. The honey came in so rapidly from the field that the bees having access to it—a trifle over 30 colonies—would completely fill the hive with thin, newly-gathered honey in a single day.

In that article I was giving the possible

American Bee Journal

yield, and, therefore, the largest yield I had obtained from any given source, and not the average yield. As a rule, buckwheat does not yield a great amount of honey here, as our weather during its bloom is not usually favorable to a yield of honey from it. During the past 25 years, I have had yields only during 4 or 5 years, and this promises to be one of the good years.

Our principal sources of honey are dandelion, white clover and basswood. Our white clover yields are often excellent, but our basswood yields are often better; in fact, it has in a number of cases quite equaled the buckwheat flow I have referred to.

As to localities making a difference, I have had yards not 12 miles apart, that were almost opposites in conditions of the yield, with also a great variation in the time, while conditions in other yards hundreds of miles apart may be almost identical. M. V. FACEY.

Preston, Minn., August 12.

Best Crop in Three Years.

I see complaints from most places, of the light honey crop, while we on the Western Slope have the best crop in the 3 years I have handled bees. The spring was very late, and I fed heavily until June 10, when my 25 colonies were very strong. The alfalfa commenced to bloom then, and I have taken off 23 supers of honey, and have 40 supers on, with at least 20 of them nearly full. I think I will have all full, if the honey-flow lasts until September 10. But I have no swarm when there is a poor honey-flow.

There are so many bees in the valley here, that we get but little honey. There are 5,000 colonies in this part of the valley in Montrose County. It is about 20 miles long and from one to 5 miles wide. I kept bees in Missouri, but they never produced honey there as they do here. E. C. WRIGHT.

Montrose, Colo., August 13.

No Basswood Honey.

The basswood bloom is over now, and has been for a week or so. The result is no honey gathered from basswood this year, and I can say the same about clover. I have colonies with three stories full of bees, and when the basswood bloom was over, they had but 5 pounds of honey, so feeding is now the order of the day.

Yesterday, one of my colonies was overrun with robber-bees. The guilty colony was located immediately. While watching them in disgust, I recalled the plan of swapping places with the two hives, or, in other words, putting the guilty one where the robbing was being done. That settled it for a few hours, and then everything was worse than ever—robbing all over. I thought of trying the kerosene plan given on page 600, by W. H. H. Stewart, and it certainly settled the business. CHAS. O. BERGSTRAND.

Amery, Wis., August 12.

Good Honey-Flow Expected.

I notice by the American Bee Journal that the prospects for honey have been very bad in a great many places. Our bees rolled in honey during the last week of April and during May, but since the first of June we have not had any surplus honey. It has been so cold and cloudy that it is about all the bees could do to keep up brood-rearing in good shape.

We expect good weather during August, and a good honey-flow from the white clover.

We enjoy reading the American Bee Journal very much, and do not want to be without it. WM. WRIGHT & SON.

Westport, Ore., July 27.

Apiarian Photographs

We can use such right along. Of course we want good, clear prints. If you have an apiary that you think would look well on paper, have it photographed and send to us the result. While we may not be able to use all that come, we doubtless will be able to use most of them. Please send the picture, and on its receipt we will report whether we can use it. If we can, we will then request you to send some descriptive matter to go with it when published. We prefer larger size photographs, say 8x10 inches, if possible. However, send whatever size is most convenient.

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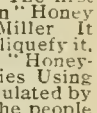

Standard Bone Cutter Co., Milford, Mass.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

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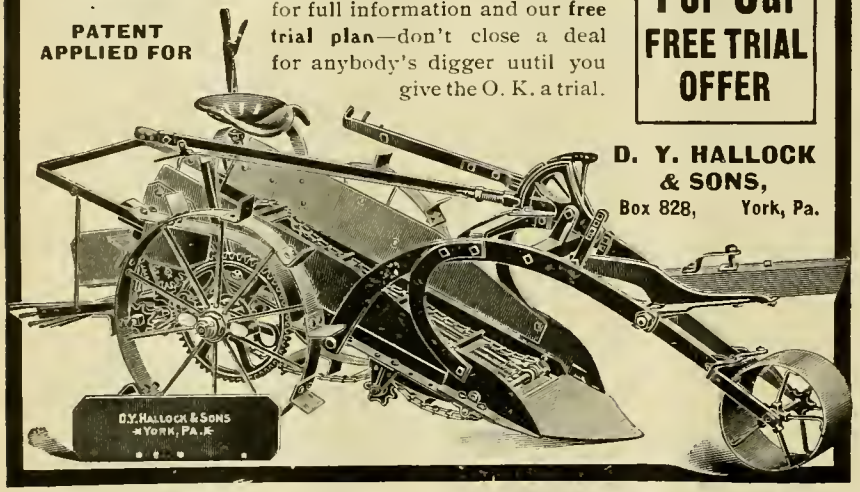

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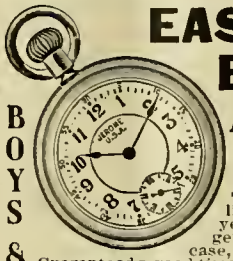

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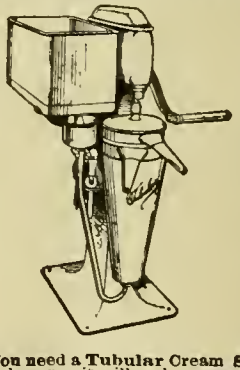

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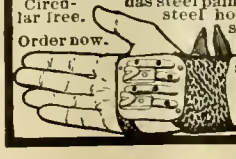

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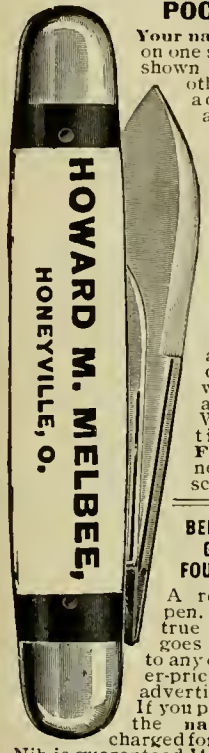

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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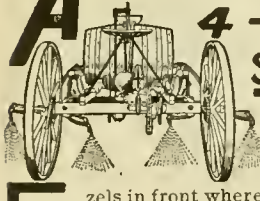

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Honey and Beeswax

CHICAGO, Aug. 31.—The market is quite active in comb honey, and the choice grades of white sell at 18c per pound. There is not much call for anything that grades under No. 1, but prices are firm though not established on all kinds of honey. Extracted, clover, brings 8c; the ambers 7 to 7½c, with dark at 6 to 6½c. Beeswax sells readily at 32c per lb. No surplus here of any kind.
R. A. BURNETT & Co.

KANSAS CITY, Aug. 19.—The demand for comb honey is good, but receipts light, with no extracted in the market. We quote No. 1 white comb, 24-section case, per case $3.50; No. 2 white and amber, $3; extracted, white, 8c; extracted, amber, 7c. Beeswax, 28c. C. C. CLEMONS & Co.

INDIANAPOLIS, Aug. 23.—Fancy white comb honey sells to the retail grocery trade in lots of 1 to 5 cases at 19 to 20 cents. No. 1 white 17 to 18 cents. Best grades of extracted in 5-gallon cans, sells for 11 to 12 cents. Some foreign extracted honey on the market is offered at slightly lower prices. Beeswax is plentiful, but in fairly good demand, at $35 per 100 pounds. WALTER S. POUDER.

CINCINNATI, Aug. 22.—The market on comb honey is good, selling for 16½c wholesale. Extracted, white, in 60-lb. cans, at 10c; amber in barrels, at 5¾ to 6c. Beeswax show at 33c.
C. H. W. WEBER.

CINCINNATI, Aug. 22.—Fancy and No. 1 comb honey finds ready sale at 15 to 16c. The present supply is about equal to the demand. The price of extracted honey is steadily advancing. We have quite a big stock on hand, and for that reason continue to quote amber in barrels at 5½ to 6½c, according to quality. Extracted, fancy white clover, in 60-lb. cans, at from 8 to 9c. For choice yellow beeswax, free from dirt, we are paying 30c.
THE FRED W. MUTH CO.

NEW YORK, Aug. 22.—We are beginning to receive small shipments of the new crop white comb honey, but do not expect to have any large lots until a few weeks from now. While the crop

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is certainly very short in some sections of New York State, and in the East in general, there are some sections where they produced a larger crop than that of last year, but, of course, not enough to off-set the shortage in other localities. The quality is reported to be fine. The demand is good; no doubt white comb honey will find ready sale all through the early fall, providing prices are not prohibitive. Let us bear in mind the fact that comb honey is not a necessity but a luxury, and unless people can buy it at a certain price they will do without it. This we have experienced more than once heretofore. Fancy stock will find ready sale at 16c per lb. No. 1 at 14 to 15c, and No. 2 around 13c. Prices on dark and buckwheat not established as yet. The season is very backward, and we do not expect to have any buckwheat until middle of next month, if then. Extracted honey is in good demand, and prices are very firm. We quote California white sage at 8½ to 9c, light amber at 7 to 7¾c. Choice grades in barrels or kegs at 7 to 7½c per lb. Average common Southern at 60 to 65c per gallon. Beeswax steady at 30 to 31c, according to quality.

HILDRETH & SEGELKEN.

TOLEDO, Aug. 15.—There is practically no market on honey yet established, as bee-keepers are all holding their honey expecting to get enormous prices. We are getting for honey, fancy white clover in a retail way, 16to 16½c; No 1, 15 to 15½c, with no demand for darker grades. Extracted white clover, in barrels, brings 7 to 7½c. Beeswax 26 to 28c.

THE GRIGGS BROS. & NICHOLS CO.

PHILADELPHIA, June 25.—This hot weather has come on us so suddenly that it has stopped the sale of comb honey entirely, and extracted honey has been moving very slowly the last 10 days. We quote: Extracted honey, dark, in barrels, 6 to 7c; light extracted honey, in barrels, 7 to 8c; in 60-lb. cans, according to quality and quantity. Beeswax, 30c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

DENVER, July 8.—Old comb honey, or last season's crop of comb honey, has been entirely cleaned up in this market for several weeks and new crop has not arrived yet. There is no change in the situation of extracted honey, and we have a good supply to meet the local demand. Our prices are 6¾ to 7½ for light amber, and 7½ to 8½ for white, per pound. We pay from 24 to 26 cents for clean yellow beeswax delivered here.

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OCTOBER—1907

American Bee Journal

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OHIO—F. M. Hollowell Harrison.
TEXAS—White Mfg. Co., Blossom.
WISCONSIN—S. W. Hines Mercantile Co., Cumberland. J. Gobeli, Glenwood.

American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

Does It Pay a Planing Mill Man to Make His Own Hives?
An unsolicited statement of the matter from an Illinois bee-keeper:

ELIAS BAMBERGER

Manufacturer of

SASH, DOORS, BLINDS

Contractors' and Builders' Supplies
Including All Kinds of Window Glass
Cor. Exchange and Adams Sts.

ESTIMATES FURNISHED ON APPLICATION

Freeport, Ill., June 11, 1907.

The A. I. Root Co.,
Medina, O.

Gentlemen:

I received five of your AE52S–10 hives yesterday and find that I cannot make my own hives and supplies as cheap as yours and use the same quality of lumber. You can see by the head of this letter that if anyone can make hives cheaper than your prices or any of the so–called "trust hive" manufacturers, I ought to be able to do it, but using the same quality of lumber I cannot.

Yours very truly,
(Signed) John H. Bamberger.

☞ The above is a representative letter from the many we have to the effect that our hives and other supplies can be purchased cheaper than a local mill can possibly make them. Our enormous output enables us to reduce the cost to the minimum without sacrificing quality.

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka.....J. M. Jenkins

Canada
Toronto.....E. Grainger & Co.

California
*Fresno..... Madary Planing Mill
*Los Angeles.....California National Honey-Producers' Association

Colorado
Denver.....The L. A. Watkins Mdse. Co.
Fruita.....Fruita Fruit and Produce Ass'n

District of Columbia
Washington.....The A. I. Root Co.

Georgia
Savannah.....Howkins & Rush
124 Liberty St.

Illinois
Chicago.....The A. I. Root Co.
144 East Erie Street.

Indiana
Indianapolis.....Walter S. Pouder
Evansville.....Vickery Bros.

Iowa
Des Moines.....Joseph Nysewander

Kansas
Augusta.....Carl F. Buck

Mississippi
Brazelia..... George A. Hummer

Massachusetts
Boston.....H. H. Jepson, 182 Friend Street
Lyonsville.....W. W. Cary & Son

Maine
Mechanic Falls.....The A. I. Root Co.

Maryland
Baltimore.....Rawlins Implement Co.

Michigan
Bell Branch.....M. H. Hunt & Son
Fremont.....George E. Hilton

Minnesota
St. Paul.....The A. I. Root Co.
1024 Mississippi Street.

Missouri
High Hill.....Jno. Nebel & Son Supply Co.
Springfield.....Springfield Seed Co.
St. Louis.....Blanke & Hauk

New Mexico
Carlsbad.....Edward Scoggin

New York
Syracuse.....The A. I. Root Co.
New York City.....The A. I. Root Co.
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Columbus Grove.....McAdams Seed Co.
Toledo.....Griggs Bros., 521 Monroe St.
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Cincinnati.....C. H. W. Weber
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Portland..... Portland Seed Co.

Pennsylvania
Du Bois.....Prothero & Arnold
Philadelphia.....The A. I. Root Co.
10 Vine Street
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633 Lycoming Street

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Dallas.....Texas Seed and Floral Co.
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Uvalde.....D. M. Edwards

Utah
Ogden.....The Superior Honey Co.

Virginia
Spottswood.....W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

(Entered as second-class mail-matter at the Chicago, Ill., Post-Office.)

Published Monthly at 50 cts. a Year, by George W. York & Co., 118 W. Jackson Blvd.

GEORGE W. YORK, Editor | **CHICAGO, ILL., OCTOBER, 1907** | **Vol. XLVII—No 30**

National Convention at Harrisburg

The last two days of this month (October 30 and 31) will be held the annual convention of the National Bee-Keepers' Association, at Harrisburg, Pa. It has been many years since it met in Pennsylvania, where now there is a strong State organization of bee-keepers.

From Chicago there will be a 10-day rate at that time of $17 for the round-trip, or a 15-day rate of $22.25, to the Jamestown Exposition (Norfolk, Va.), with stop-over privilege at Harrisburg to attend the convention. With such low rates and generous privileges, it seems there should be a large number of bee-keepers who would avail themselves of the opportunity to attend the National convention of bee-keepers this year. Pennsylvania will make every effort to have a successful meeting.

We hope that as many as possible of the readers of the American Bee-Journal will plan to go to Harrisburg. It is a little less than a month now before the convention. We are hoping to be present, but just now we can not say definitely, as there are circumstances over which we have no control that may prevent our attendance this year.

The Honey Market for 1907

It is a mistake to hold on to honey until too late, expecting an advance in price that is never to come. On the other hand it is a mistake to let it go for any old price that may be offered, said offering being based upon the fact that the buyer who makes the offer has already bought at a very low figure. The amount bought at that low figure may be merely a few pounds produced by some ignorant bee-owner with few colonies and less experience, and it is hardly the right thing that such a transaction should be considered as settling the price.

It is now very evident that the crop is short, and there is no good reason why the price should not be correspondingly long. Even if the crop were of the usual amount the upward tendency of all prices in general demand that honey should also advance. Taking both conditions together, scarcity of the article and a general rise in prices, it certainly looks as if honey should be honey this year. While there is a gratifying advance in quotations in some cities, in others there seems a tendency to keep somewhat nearer old prices. The bee-keeper will, of course, consider difference in prices, as also distance to different markets, and be governed accordingly. Above all, he should look out for his home market, and not be in haste to sacrifice the fruit of his season's labor.

Beginners Should Study Foul Brood

The beginner who fails to read up on the subject of foul brood, thinking that it is time enough to do so when the disease appears in his own apiary, is making a serious mistake. After a time he finds something unusual in one or more of his colonies, and is frantic lest it be foul brood, whereas if he had informed himself he might have been saved needless anxiety, since there may be nothing in the case to excite needless alarm. Or, if the disease has really appeared, it is of first importance that he be informed in advance, ready intelligently to identify it, and to know at least something about what should be done, instead of being thrown into a panic wasting precious days before finding out what to do.

Again, the insidious enemy may make its appearance unsuspectedly, and be spread throughout the whole apiary before he suspects it, whereas a little reading would have enabled him to spot it while it was still confined to a single colony, allowing him to take precautionary measures to prevent its further spread.

As a practical authority on the subject, no one stands higher than the Canadian expert, Wm. McEvoy. As his latest deliverance upon the subject, after his many years of rich experience in dealing with the pest in many apiaries, will be found an article on another page of this number, the said article being copied from the Canadian Bee Journal. Its reading is heartily commended to all who are as yet uninformed upon the subject. Those who are informed will probably read it anyhow.

New Way of Introducing Queens

The Alexander plan of introducing 2 or more queens into a colony may be equally used for the ordinary introduction of a single strange queen. It has the same advantage over the ordinary candy plan that the Abbott plan has, in that the colony is left queenless less than 12 hours; and Mr. Alexander claims in Gleanings that it is very much easier than the usual candy plan.

Dr. Miller's Double-Queen Plan

Dr. Miller writes that while waiting for Mr. Alexander to make known his plan of getting several queens into the same colony, he has been doing some experimenting on his own account, and has met with entire success in part of his trials. His plan is exceedingly simple:

Put into a provisioned cage 2 queens, put the cage into a queenless colony, and after 6 days' imprisonment let the queens out upon the combs. That's all. This takes considerably less of the bee-keeper's time than the Alexander plan, but takes much more of the bees' time. Moreover, it is doubtful if it is so safe. The queens with which he succeeded

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were 3 years old. He put into the same cage 2 queens that had been laying only a few days, and they showed fight. Possibly success might be obtained with any 2 queens, if, instead of being put in the same cage, they were put into 2 different cages and imprisoned in the same hive. Certainly there could be no fighting during the time of imprisonment in the cages, and at the end of that time they might be ready to be good to each other.

Attachment of Sections to Separators

For some reason it sometimes happens that a little bridge of wax is built between the separator and the sealed surface of a section. This is more likely to be the case if there is some crowding for room, which favors bar-combs in general. Once in a while a colony seems to have a special tendency in that direction, many of the sections in each of its supers being thus fastened to the separators, and it is not a bad plan, at the first convenient opportunity, to replace the queen of such a colony with a queen of better tendencies.

When this trouble exists, and the sections are taken out with no special care, the capping is sure to be pulled away, resulting in a "bleeding" section. To avoid this, before the sections are taken out of the super, cut through the bridge with a sharp knife having a thin blade. Still better, cut through with a heated blade which melts the wax.

Extracting-Combs on Till Close of Season

Years ago the Dadants stood pretty much alone in the practise of leaving extracting-combs on the hives till the close of the season. With the idea that more honey could thereby be obtained, in many cases honey was thrown out of the comb when little or none of it was sealed. Some claimed it could be ripened out of the hive as well as in. Whether that be correct or not, the fact was that it was not well-ripened in most cases, and the amount of unripe stuff thrown upon the market had an effect from which extracted honey suffers till the present. It seems to be conceded now that there is no real gain in the amount obtained by extracting before sealing; only loss in the quality of the honey. Even if it were just as well to extract one time as another, the matter of convenience should incline toward waiting till the rush of work at the bees is over. Artificial heat can make the combs even warmer than when just taken from the hives.

Comb Honey by Express

We have received he following in regard to shipping comb-honey by express:

EDITOR AMERICAN BEE JOURNAL:—

Ought we not to do something to make express company employes handle honey more carefully? If the sections are in regular shipping-cases, with glass fronts and hand-holes, why should honey arrive in a great big mess? I shipped a lot to New York, and 25 percent was smashed. Everybody knows, of course, with what keen sense of responsibility and most delicate feeling our trunks are dumped from the express-car on the truck! Why such a fragile article as honey should not be handled carefully, I really do not understand.

Let us be up and doing, to bring some pressure to bear upon the head men of the express companies, so that they will instruct their employes to exercise the proper care in handling other people's property. To patronize a concern, pay for transporting charges, and then have one's goods damaged and smashed, is an outrage. C. T. OHLINGER.

Angelica, N. Y.

This, of course, is a serious matter to bee-keepers who wish to send comb honey by express. But it is a difficult matter to ship comb honey safely if it is not properly protected or packed. It would seem that if the express companies accept comb honey, they ought to be held responsible for any damage to it while in their hands.

This is a matter that the Committee on Freight-Rates, of the National Bee-Keepers' Association, might well consider. Why not have it brought up at the Harrisburg convention, Oct. 30 and 31?

Two Queens or More in One Colony

A few months ago, the somewhat startling announcement was made in Gleanings that E. W. Alexander had succeeded in having in the same colony, not separated by excluder zinc, but with free access to each other, 2 or more laying queens. Mr. Alexander has at last made known the plan by which he succeeds in accomplishing this, which plan will be found on another page of this number. A hasty reading may make it seem to some that a good deal of time and labor is involved in the proceeding, but a careful study will make this appear a good deal less.

It would be premature to say just how successful others will be in carrying out the plan until it has been thoroughly tried. For such trial many will still have opportunity this fall. Of course, all uniting of weak colonies should have been done before this, but equally, of course, some colonies are likely still to be left that are not as strong as might be desired. One or more weaklings may have been left merely for the chance of wintering over their queens. If 2 such queens can be induced to live peaceably together, the chances of wintering over will be increased by the union of the colonies.

Let it be urged that whoever tries the plan should follow strictly the instructions given by Mr. Alexander. A slight deviation in a single particular, even if it seem of no consequence, may bring failure. Let it be noted that although it is only incidentally mentioned, the first step in the process—removing the queen and brood, and putting the bees in the box—is taken in the morning, giving from that time until sundown for the distress of the queenless bees to reach its climax.

If it turns out that Mr. Alexander's plan can be generally carried out with success, it is hard to estimate its importance. If nothing more could be gained than the wintering over of one or more extra queens in a colony, that alone would be an immense step in advance. But Mr. Alexander claims another advantage that many will estimate still more highly. He says he has never had a colony with 2 or more laying queens prepare to swarm. While some might not value this, there are others who would gladly double together every pair of colonies in the spring if they might be safe from all anxiety about swarming.

Producing Best Extracted Honey

In the Bee-Keepers' Review for August there is quite a little about producing well-ripened honey. On receipt of that copy, Mr. R. A. Burnett, who is perhaps the oldest honey dealer in Chicago, wrote us the following comment:

EDITOR YORK:—The first two articles in the Bee-Keepers' Review of August make the blood in the writer circulate with the freedom of youth. Just to think that the wise editor has reached the autumn of life before he knew what he describes in these words:

"It is then perfectly ripened and all sealed over, and has a body and flavor of which I never dreamed until I put this method into practice."

What practice? you may ask. It is that of letting the *bees* complete their sacrifice in ripening the honey in their homes.

Mr. Townsend has proved for himself that more honey than he can produce, of a perfect quality, is needed to supply those who once get a taste of such as he describes. The writer has maintained for many years that the greatest enemy of the bee-keepers is the bee-keeper who offers unripe honey for sale. If honey-producers will heed the prayer of Mr. E. D. Townsend, uttered in the last sentence of his article above mentioned, it will bring them money, and blessings. R. A. BURNETT.

Chicago, August 28th.

The particular statement to which Mr. Burnett refers is contained in this from Editor Hutchinson himself:

"In the frontispiece this month I am showing you a view of the Morey apiary. No honey has yet been taken off, but you can see that we are to get a fair crop, and by the time these lines greet the eyes of my readers, much of the extracting will have been done. You see, we have plenty of supers and combs or sheets of foundation, and when a colony is in need of more room it is given, but all of the honey is left on until the end of the season. It is then perfectly ripened and all sealed over, and has a body and flavor of which I never dreamed until I put this method into practice. The honey will be taken off with bee-escapes, and then warmed up artificially before it is extracted. One end of the honey-house is partitioned off, making a room 5x12 and six feet high. By means of an oil stove we can bring the temperature in this room up to 110 degrees, if we wish, and 95 is high enough. Honey warmed up arti-

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ficially to as high a degree as it will bear without softening the combs too much, can be extracted quicker and cleaner than honey as it usually comes from the bees. Another thing, there is no need of any hurry about it. Just have plenty of supers, and pile them up until the season is over, then take off the honey with bee-escapes, and extract it at your leisure. In this way, bee-keeping is robbed of much of its strenuousness. Of course, it is not absolutely necessary to leave on all the honey until the season is over. When the honey in a super is all sealed over, it may be removed, and such full supers may be stacked up in the house until we are ready to extract."

As the subject of producing only well-ripened extracted honey is such a vital one, not only to bee-keepers themselves, but also to the dealers in honey, we wish to make a few more extracts from that same copy of the Review. The following is written by Mr. E. D. Townsend, a leading Michigan bee-keeper:

"Grading Extracted Honey."

"For several years our extracted honey has been graded; that is, our early, white honey for table use, with our system of giving additional upper stories *on top*, any partly-full upper stories are on top at the close of the season, when we do our extracting. Of course, with this way of managing, especially as we try to have every upper story possible sealed, and finished, still, with all the precaution one can take along this line, with these 50-pound-capacity upper stories, there will be a good many partly-full upper stories at the close of the season, the best we can do. The way we manage to get our superior grade of honey that sells for one or 2 cents above the market price, is to take off all these partly-full upper stories, and extract them by themselves. As they are all on *top*, this is not much additional labor, and, in a good season, this first extracting will not amount to more than one-fourth the crop. We call this grade No. 1, as even this, our lowest grade, is superior to the ordinary honey on the market.

"Another way, where one has two extractors, and a little more time, is to set up two extractors, near together for convenience, then run all the partly-sealed combs through an extractor before uncapping. In this way, we get a larger percent of the superior grade of honey, but it is some more work. With this latter plan the unsealed honey is not of as good quality as our No. 1 mentioned above, and ought to go for some other purpose than table use. This plan of using two extractors, originated with me, and our whole crop at the Kalkaska County yard was handled this way during season of 1905.

"The reason for using two extractors is that the sealed combs of honey would get so cold standing around, waiting their turn, that it would be impossible to extract the honey unless it was returned to the bees to be warmed up. If one had artificial heat to apply in the latter case, it would work fine. Some of the slickest, cleanest, dryest combs I ever extracted were heated up artificially.

"Producing an Article that Enables the Producer to Set the Price.

"It will not be necessary to tell the experienced extracted honey producer that this honey, after being left on the hive clear through the season, then, having all the latest-gathered and unsealed honey taken away, and kept in a grade by itself, that we would be likely to get a fine article; more, *it would be the acme of perfection*. Isn't the system very simple? Just add a few more upper stories, keep giving the bees more comb-room clear through the season, then leave it as long as there is no danger of getting dark, or inferior, honey mixed with it, even if it is the last of August, if you have no fall flow, and I assure you, you will not regret it. You will have an article in a class by itself. To find its value, you do not have to look at a market quotation. *You* make *customers;* there is a *scramble* for it.

"Any one producing the ordinary article of honey one finds on the market, is not only losing much on his *own* crop, but is a very great damage to the fraternity at large. It is an undisputed fact, that every pound of good honey that is put on the market increases the demand for honey, while every pound of inferior honey decreases the demand. Can't you see how the land lays? Have you been producing just the *ordinary* honey in the past? Has the price been unsatisfactory, and the sales slow and far between? If so, there is a better way. The better way is so simple that there is not a particle of excuse, for not practicing it. Brother bee-keeper, let us produce just a little better honey during 1907 than we did in 1906."

The following are two of Mr. Hutchinson's editorials, taken from the same number of the Review, as they bear directly upon the subject under consideration:

"Get Good Prices for Your Honey and Don't Fool It Away.

"Last winter and spring were terribly hard on bees; the mortality was great. Then, on top of this, came an almost total failure of the white honey crop. The result is one of the shortest honey crops that this country has experienced in a long time.

"The National pure food law has cut out the glucose competition and largely removed the suspicion of adulteration.

"Coupled with all of the foregoing comes a general advance in the price of nearly all commodities, and bee-keepers certainly ought not to be so far behind the times as to neglect to take advantage of this opportunity; or, rather, to claim what is rightfully theirs. I do not advise the asking of an exorbitant price, even if it could be obtained; and it can't, as honey is a luxury (not a staple like bread, meat and potatoes) and few people will pay a fancy price for it.

"Under these circumstances, I think strictly first-class, white, extracted honey should bring 10 cents at wholesale, and the same grade of comb honey at least 16 cents. I believe any man having any of that grade of honey can secure those prices between now and January if he only holds on to his honey and takes the proper course to secure customers. I am already getting orders for my honey at that price; but there is occasionally a retail dealer who 'balks' at that price, saying his trade will not allow him to pay that figure. The prices at which honey has been retailed in the past will not allow such a price at wholesale, but retail prices must be advanced, and there never was an opportunity like the present for advancing them—'there is a reason.' Retail dealers must explain to their customers that bees died largely as the result of the late cold spring, that the clover harvest was almost a failure, and the result is a very short crop with the consequent advance in price. Call attention to the additional fact that the prices of nearly everything are advancing—people *know this,* and can comprehend why the prices of honey should also be advanced. A little careful explanation like this on the part of the retailer will enable him to put the price of honey where it ought to be under the circumstances."

"How to Get Good Prices."

"I have urged my readers to ask a good price for their honey, but simply *asking* is not enough. It is a very easy matter to ship off a crop of honey to some dealer and get the ordinary, ruling market price for it. If you wish to secure more than the market price, then some effort must be put forth. In the first place, there must be some *reason* why a good price shall be received. Take my own case, for instance; my honey is not ordinary honey, it is raspberry honey. Then it is thoroughly ripened—left on the hives weeks after it is capped over—and is thick, rich and delicious; and it is put up in bright, *new* 60-pound cans. It is impossible to produce an article superior to this. Having produced such a fine article, and put a proper price upon it, the next step is to let consumers know about it—advertise it and send out samples. I am now advertising it in three of the bee-journals. Of course this costs something, and if a man were to be in the business only a year it might not pay him, but a man can gradually build up a trade, and secure a class of customers that will buy his honey year after year without any advertising. I am now receiving orders from men who bought honey of me last year. They don't even ask for samples; they say, 'If your honey is like that of last year, you may send me so many cases,' and they send on the cash.

"Now, friends, isn't it worth while to have such a trade? To be able to sell your honey year after year to the same men—those who are willing to pay you from one to 2 cents a pound above market price, and send cash with the order, because they *know* that no finer honey can be produced, and that it is worth what you ask for it? The whole thing can be told in a few words: Produce honey of superior quality, and then let consumers know about it—the latter is fully as important as the first."

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Does the Queen Will the Egg-Sex?

Some maintain that the size of the cell decides automatically the sex of the egg laid in it. To this it is replied that if the cells are only ⅕ inch deep, the queen still lays the proper egg in the corresponding cell, as a general rule, only sometimes when drone-comb is in the way, and she does not desire to lay drone-eggs, she fills these drone-cells with fertilized, or worker, eggs; and so it is perhaps the general belief that the will of the queen decides whether each egg, as it is laid, shall be impregnated or not.

Dr. Miller, in Gleanings, declares he does not know which theory is correct, but says that in the few cases he has known of worker-eggs being laid in drone-cells the workers have always narrowed the mouths of the cells by making a heavy margin of wax, and wants to you, you know, why it is that if the sex of the egg depends upon the will of the queen she can not will to lay eggs in drone-cells without any bother of first narrowing the mouths of the cells.

Spring Stimulation of Brood-Rearing

Allen Latham says in the American Bee-Keeper:

"Few bee-keepers escape and fewer resist the temptation to practice brood-stimulation in spring. Some succeed apparently in their efforts and tell of their success, while many fail and say nothing about their failures. That brood-stimulation is a matter to be let alone—let severely alone—by the novice is acknowledged by all who are honest in their advice and to their own conviction."

In support of his belief he then relates how, during the past inclement spring, he gave special care to the bees in his home apiary, while 8 colonies a mile and a half away were left severely alone, and these neglected colonies came out stronger than the others. The neglected colonies were in larger hives than the others, and the question may be raised whether this item made no difference.

Get a Bee-Book—Good Advice

The editor of the Irish Bee Journal puts it in this wise: "The height of folly is to try making money by bees without a thoroughly reliable book of instructions." And that's just as true in this country as in Ireland. A man with only a single colony of bees can gain or save enough in a single season, oftentimes, to pay for a text-book on bee-keeping twice over. If you can not have both a bee-book and a bee-paper, by all means have the bee-book first, and then the periodical as soon after as you can.

Speaking of bee-books, that same Irish editor—Rev. J. G. Digges—has writtten the "Irish Bee-Guide," a book which has had high words of praise, and no one familiar with the bright scintillations of wit in the Irish Bee Journal could be easily persuaded that a book written by its editor would be very dull reading.

Miscellaneous News-Items

The National's Membership

It is still growing. On September 26 it had a total of 2471 members. Surely more than enough will come in before the Harrisburg convention, Oct. 30 and 31, to put it away over the 2500 mark mentioned some time ago. There are many of our readers who should become members at once. Send $1.00 to N. E. France, Platteville, Wis., which will pay a year's dues.

The National Bee-Keepers' Association is the greatest organization of bee-folks on this continent. If all will lend a hand, it will increase in power and usefulness as the years come and go. If you, dear reader, are not now a member, better join today.

Apiary of M. A. Salazar

Mr. W. H. Laws, of Beeville, Tex., sent us the following taken from a local newspaper, last June:

Yesterday morning M. A. Salazar hived the most remarkable swarm of bees, in some respects, that has ever been seen in the Falfurrias Country.

These bees—a big swarm—were actually building comb, storing honey, etc., among the branches of a tree near Mr. Salazar's house on West Rice Street. They were as busily at work as if they had been at home in a hive, and, contrary to the usual bee laws and regulations, were building comb and rearing brood as though intending to make their permanent home in the open light of day, and without the slightest protection from sun, wind and rain, except such as was afforded by the leaves of the tree.

They had been there long enough to have some sealed brood, and a larger quantity of larvæ and eggs, and in a short time would have been hatching out, had nothing happened to interfere with them, but Mr. Salazar decided to put them in a more up-to-date hive. No one knows where the swarm came from, but Mr. Salazar is certain they used good judgment in stopping near his large apiary.

Mr. Laws also kindly sent us the accompanying pictures which were on souvenir postal cards.

An Out-Door Colony

Apiary of M. A. Salazar

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Getting a Late Honey Crop

In a letter from Mr. C. P. Dadant, of Hamilton, Ill., dated Sept. 11, he wrote as follows:

"Our boys are now glad that they kept pushing the bees that looked so bad in the spring, for they are now being rewarded with one of the latest crops of honey we ever had. It was fully Aug. 20 before the bees started to store in good earnest, but we now feel sure of over 15,000 pounds of extracted honey, which is more than could be expected after such a backward season."

We hope that the foregoing experience will be general throughout the whole country. If it is, the bees will not only enter winter quarters well supplied with stores, but the fall crop of honey will go quite a distance toward helping to make up for the loss of the white honey crop. Then if we can have a good honey season next year, everything in beedom may be evened up all right.

Advertising Honey For Sale

We have received the following from Mr. Jay North, who offered 1,500 pounds of extracted honey for sale through a small advertisement one time in the American Bee Journal:

EDITOR YORK:—Please drop my advertisement from your next issue, as my clover honey is all sold. It went fast at the 10 cents a pound.

This is the first time I ever advertised my honey, and can say that I am well pleased with the results.

JAY NORTH.

If you have any good honey to sell, why not do as Mr. North did? An advertisement in the American Bee Journal should do as well for you.

Apiarian Exhibit of C. M. Nichols

The picture herewith shows the exhibit of bees, honey, etc., made by Mr. C. M. Nichols, at the recent Michigan State Fair at Detroit, and also at the West Michigan Fair held at Grand Rapids. We understand that he won a large share of the prizes and honors at both Fairs, and cash premiums amounting to over $200. Besides this he sold quite a lot of honey at fancy prices to the fair officials and others.

The Grand Rapids *Daily Herald* comments very interestingly on the exhibit made by Mr. Nichols, calling it the most fascinating and instructive exhibit to man, woman, and child. The display stood out in bold relief, its inviting rows of pure extracted honey in various sizes and shapes of glass bottles being attractive to the eye as well as to the appetite of those having a sweet tooth.

Mr. Nichols operates 5 bee-yards, which makes him one of the leading bee-keepers of Michigan. He exhibited bees in over 30 observation hives, besides having a large screen-covered cage which he entered and demonstrated the various manipulations of bees. This and many other features of his exhibit made it the most instructive and attractive on the grounds.

While the staging and care of such an exhibit as Mr. Nichols showed at the two Fairs referred to mean a lot of work and expense, we believe there is no better way in which to interest the public in honey. Surely there are no other exhibits that always attract so much attention as those of the apiary department of any Fair.

Mr. Caley's Cleome Apiary

When sending the picture shown on the front page this month, Mr. G. D. Caley, of Cozad, Neb., wrote as follows:

EDITOR YORK:—I have about 50 colonies of bees, but the plants are so large that they hide part of the hives. It is Rocky Mountain Bee-plant, or *Cleome integrifolia*. I think it is one of the best bee-plants we have in Nebraska. The bees work on it from daylight till dark. G. D. CALEY.

Mr. Caley attended the San Antonio convention of the National last November, when we had the pleasure of meeting him. He is also an old-time friend of the American Bee Journal and subscriber thereto. His Cleome or Rocky Mountain Bee-Plant apiary is certainly very attractive. Cleome is a beautiful plant, growing 4 or 5 feet high, and branching out several feet. We remember seeing it for the first time when attending the Denver meeting of the National several years ago. It is a rich honey-plant.

A Spanish Bee-Paper

For the second time, an attempt is being made to publish a bee-paper in Spain. This magaizne, entitled, "La Apicultura Espanola," is published at Barcelona, Spain, by Mr. Pons-Fabregues, who is an enthusiastic bee-keeper, and has already published several works on bees, translated from the French. We trust he may make a success of his new venture. July and August numbers are the first of this paper.

Mr. Strong at the Clarinda Fair

Mr. J. L. Strong, of Clarinda, Iowa, made an interesting exhibition at the Clarinda Fair recently. He had a cage made of screen-wire, in which he placed a colony of bees that he manipulated at various times during each day of the fair. As usual it was a very attractive demonstration. Mr. Strong is one of the best informed bee-keepers in Iowa, as well as perhaps its leading queen-breeder.

"Honey-Guides" for the Bees

The following is taken from the New York Christian Advocate, which may interest the younger members of the family, even if it is quite fanciful:

"Mother, what are those lines on the morning-glory for?"

"Those are honey-guides," said mother. "Each one of these lines runs into the center of the flower where the honey is. God put them there, so when a bee a-lights on a flower it can go right to the honey; and that is what the bees go into the flower for, you know—to get the honey in the center of the flower. Now go out and sit under the morning-

APIARIAN EXHIBIT OF C. M. NICHOLS, AT TWO MICHIGAN FAIRS

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glory vines and watch the bees for a little while, and see for yourself."

So Nellie ran out of the house. "Oh, mother!" she cried, "the bee did follow the line right up from the outside to the middle of the flower, and she got some funny yellow stuff on her, too."

"That was pollen," said mother; "the bee will take that home to feed the babies."

"Well, isn't that queer?" said Nellie, and she ran back to learn some more about the bees.

Great Big "Bee-Cave"

In the Australian Bee-Bulletin appears the following item:

"The biggest bee-hive in the world is in Kentucky, and is known as the "Mammoth Bee-hive." It is in reality a huge cave, the main compartment being 150 feet high, while the floor covers 10 acres in extent."

Wonder where our Australian contemporary came across that item. Every school-boy knows about the Mammoth Cave in Kentucky, but has any one ever heard of bees in it?

Bee-Keeping in Bermuda

The following relating to bee-keeping in Bermuda is copied from a letter sent to a friend of ours in New York State:

Bee-Keeping has been tried several times here in Bermuda during the last 20 years, the last time by a Mr. Morrison, who afterward became bee-inspecto Sir Daniel Morris' Department in the West Indies; but all failed to make it pay, for in our damp climate the bees became sluggish and would not work. In Jamaica they have two crops called "logwood" and "mango," each of which is equivalent to our heather at home. Here in Bermuda we have a few scattered flowers all the year around.

T. J. Harris.

Public Gardens, Bermuda, Aug. 30.

British Bee-Keepers' Guide-Book

We have just received a copy of the new edition of "The British Bee-Keepers' Guide-Book," by Mr. Thos. Wm. Cowan, of London, England. It is almost entirely re-written, and has many new illustrations. The chapter on diseases of bees is perhaps the most complete that has yet been printed. This present edition consists of 19,000 copies, and is the 69th thousand. There are not only 4 extra lines on each page over the former editions, but there are 46 extra pages. A most excellent portrait of our good friend, the author, Mr. Cowan (who is also editor of the British Bee Journal) graces the page fronting the title-page. It is a book that should find a place in every bee-keeper's library. It is also a gem typographically and mechanically.

Pleased with the Monthly

We have received the following from an Iowa subscriber:

Editor American Bee Journal:—In regard to the change of the American Bee Journal from a weekly to a monthly, I will say that I subscribed for it just because it was a weekly at that time. I have noticed that many a hint came along weekly just when wanted, but if I had to either wait a month for the expected help or remember it a month my recollection of the matter would be a little indistinct. However, your July and August numbers are so attractive and full of good matter that the change may be for the better, just the same. I enclose you a list of bee-keepers whose names I have gathered, and hope they will all subscribe for your paper. Please send them sample copies and go after them, and keep after them.

Yours truly, John Egenes.

Queen-Mating Station

At the Colorado convention, as reported in the American Bee-Keeper, an animated discussion took place regarding the establishment of a station to which virgin queens could be sent, to be there mated and returned. This scheme is carried out with satisfaction in Switzerland, and there is no reason why it might not be as successful in this country.

Central Tennessee Convention

The Central Tennessee Bee-Keepers' Association met at the rooms of the Nashville Board of Trade, on Saturday, Aug. 31, with about 25 members in attendance. Pres. J. M. Davis occupied the chair, and J. M. Buchanan was Secretary.

Mr. Leslie Martin read a very interesting paper on, "The Different Races of Bees," and Mr. Davis gave an instructive talk on "The Queen-Bee." The question-box was opened, and various topics of interest were discussed.

It was decided to make a nice exhibit of bees and bee-products at the Tennessee State Fair, Sept. 23 to 28. In connection with the exhibit will be held a daily bee-demonstration in a wire cage. Sept. 26 was named as "Bee-Keepers' Day" at the Fair.

Several new members were received, and the prospects for the success of the Association are very bright.

The convention adjourned to meet at the call of the Executive Committee.

J. M. Buchanan, *Sec.*

Northern Illinois Convention

The annual meeting of the Northern Illinois and Southern Wisconsin Bee-Keepers' Association will be held in Freeport, Ill., in the Supervisor's room in the Court House, on Tuesday, Oct. 15, 1907. All interested in bees are invited to attend. B. Kennedy, *Sec.*

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Bulk or Chunk Honey, Etc.

Mr. Scholl:—Are we not liable to get in a mess here by producing so largely chunk honey? Think what a fix one with a carload of the stuff would be in if the market here in the South should be more than supplied, and it must be shipped to a colder climate. Mr. Toepperwein says he is having a great deal of trouble, and advises bee-keepers to heat their honey to 150 degrees to prevent granulation. Now it seems to me a way might be devised, and laid before the bee-keepers of Texas, that would reduce this danger to a minimum, and cheapen the production of fancy comb honey at the same time.

I am thinking of fitting an apiary for producing comb honey without separators, so as to avoid so much outlay of cost on the start, time in cleaning separators, and getting plump sections—sections which to my views are superior to the much-praised plain section. I must confess, however, that I have had but little experience with comb honey, and that was so long ago that I am not certain as to facts. I am of the opinion that comb foundation put carefully in the center of sections and given only to good, strong colonies—better perhaps to those that have been started on a shallow set of extracting combs—would be completed, with few exceptions, so that they would crate as well as the plain sections, or it may be a little better. I would use the same kind of super that supply-dealers advise for shallow extracting combs, and practice Mr. Danzenbaker's method of moving sections to the center for finishing when the season was poor, but tier up when the season was good. It might be better to use a separator to every other section-holder, but I doubt it.

If a colony did not prove its ability to do first-class work, go up into every section at once, and complete in good shape, better let them give you the good, old-fashioned extracted honey which the pure food law is apt to make a market for, and you will then have a honey you can liquefy without trouble. If we do have many uncratable sections, the chunk-honey plan will catch them. If we could use for a small package a large-mouthed can or jar, so that a lit-

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tle heating around the sides when left in moderately hot water would enable the consumers to remove it, it would, it seems to me, be an excellent plan. Any one who has melted honey containing comb knows the effect on the flavor of it.

Mr. Toepperwein, to whom I have written concerning transporting comb honey, refers me to you as best prepared to furnish the desired information. I wish to know if it is much damaged when shipped a distance. What is the cost by freight to, say, Kansas? As I am planning to engage largely in the production of honey—chunk, section, and extracted—I would be glad to know which to give the lead. Your opinion will be highly valued. It seems to me to be a good plan to bring the subject up in your Department for discussion. "In the counsel of many there is wisdom." J. B. Colton.

Olmito, Texas, July 22.

It does not seem to me that it is a serious matter to dispose of any quantity of good honey, either comb or extracted, provided it is rightly done. The greatest trouble that confronts us, as bee-keepers, is the marketing of our crop, and it is no other's fault save our own. We know how to produce a crop of honey year after year, if these are favorable, but that is generally all. We must have somebody else to market *our* honey, and that one gets *our* profits. We must make up our minds to pay more attention to *proper marketing of our own honey; to distribute it properly, and to get profitable returns for our honey and our efforts.*

Neither does it seem to me that there would then be any glut in the markets so that we could not profitably dispose of our bulk comb, or any other kind of honey. It is true that a good deal of the early honey from some points in southwest Texas did granulate this year on the market, but this can, should, and must be avoided. It can be done simply by heating the liquid honey to 150 degrees, Fahr., which does not hurt it in any way. Do not heat it hotter. Some honeys will stand it, but others will not. The honey in the comb will hardly granulate, and with this heated extracted honey poured over it, our bulk comb can safely be put on the market.

With the experience I have had in the production of section honey, lasting through 5 or 6 years, I would not now go back to that way of producing comb honey with its labor and expense, and the "fussing" to produce a saleable article that brings little more than the comb honey that is so easily produced in larger frames, with less work. And I would never attempt to produce section honey without separators. Neither would I think of using all those uncratable and unfinished sections for bulk comb honey. It would be far too expensive. Instead of rigging up for producing section honey as you propose, I would rig up for the production of bulk comb honey, using shallow extracting frame supers. Then, when there is no market for bulk comb (?), why, simply extract the combs, for there will surely *always* be a market for extracted honey. All unfinished combs not fit for bulk comb honey are extracted, and there is no loss. The profits, however, here in the South, will be greater than if you "fuss" with section honey.

The difference in the price is not large enough; besides, section honey in glass shipping-cases goes at double first-class freight, while comb-honey in cases, and cases in wooden cases, like extracted, goes at fourth-class rates.

Considering all this is why we are all producing bulk comb honey instead of sections, as we used to do.

De Bizzy Honey-Bee.

"No one's makin' speeches
'Cep de honey-bee.
De principles she teaches
Sounds right sensible to me.
She says: 'Keep lookin' foh de sweets
Dat's growin' everywhere;
An' if some no-'count weeds you meets
Pass on an' don't you care.'

"As she comes a-bringin'
De goods f'um 'roun' de farm.
She say: 'A little singin'
Ain't gwineter do no harm.'
I tells you, lots of us would get
Mo' joy f'um life if we
Kep' follerin' de example set
By de bizzy Honey-Bee."

—Washington Star.

Caucasian Bees vs. Italian Bees

I have not seen much pro and con about the Caucasian bees from the Southern bee-keepers. Surely they have them under test and will report from time to time. It has been said that we have much inferior honey in the South, and it is true in many locations, and can be attributed only to the fact that the bees do not give it the proper attention while evaporating and capping it. They quit it too soon, and the result is that it soon sours, or ferments. Also, granulation will begin sooner than it should.

It is the thin honey that gives us the most trouble, and the fact is that the bees do not give it a body. The black bees do not gather much of the thin or inferior honey, but other strains do, and it often gives them a lot of trouble. I have seen the Italian bees recap it many times, until cappings were ⅛ of an inch thick. This is all they seem to know to do to it, when the trouble was that they capped it too soon.

I have always found this fault in the Italian bees, that they are too hasty about capping their honey. If there is a check in the honey-flow for a few days, they will cap the honey and not give it the attention they should.

Cotton is becoming a great honey-plant here. It is yielding better each season. I can remember when it was considered only a pollen-plant. Now we get from 25 to 100 pounds of surplus honey per colony from it, and our bees winter on it. But its honey is thin, and soon ferments, and is not wholesome.

The Caucasian bees are giving this and other thin honey a good body. This fact is not due to season or locality, for in the same yards, side by side, the honey of the Italian colonies had soured when we got around to extracting, while that of the Caucasian was as fine honey as we ever produced, and shows no sign of souring nor granulating, and they gathered more of it, too. It has a heavy body, and the flavor is very much improved.

In a previous article I mentioned some of their good qualities, and at the same time I noticed the care they were giving their honey, but only mentioned that they gave me a surplus of a few pounds of nice comb honey. Now that I have tested them extensively, I send another report.

I might also add that the Caucasians have as large a brood-nest as other strains of bees, but better compacted. They are very quiet on their comb while handling them. They cap their brood and honey more evenly than other races, raise the caps about as the black bees do, and have a beautiful appearance. Also, they are great cell-builders. During the flow of our best honey, the Italians kept pace with them very well.

Crisp Co., Ga. J. J. Wilder.

Not Good Fall Prospects—Superseding Young Queens

I could not help having a feeling of regret come over me when I read the announcement in the June issue of the good old American Bee Journal, that in the future it would be issued only monthly. It seems to me there surely are bee-keepers enough in this broad land of ours to support a weekly journal, if they take the interest they should.

Fall Prospects.

The prospects for fall honey are anything but good this year, and I expect that a good many will make the same mistake as last year—that is, extract too close, leaving the bees in almost destitute condition for winter. If we get a fall crop in this portion of the State it will be something very unexpected, indeed, for our main source for fall honey (broomweed) is a failure this year, and we would need to have one of those "unexpected" honey-flows if we get any more honey this year.

The above is not given for the true state of affairs throughout the State of Texas, but for this locality. You know Texas is a large State, and weather conditions vary considerably.

Superseding of Young Queens.

We have had more new experience this year with the bees. Last fall one of my best colonies of bees commenced to supersede their queen, which was in her 4th year. But as fast as they would build and cap the cells, I would remove them to nuclei with the hope of getting a choice lot of queens from one of my best breeders, and I succeeded in getting 12 or 14 nice young queens, from these cells, to laying before the old queen died. Like most cells built in the natural way, the queens that hatched from them were large and well developed, and all proved to be good layers last spring. They are among my best colonies. Now here is the strange part of the proceedings to me: Some 5 or 6 of those young queens have al-

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ready been superseded by the bees before they were a year old. Whether this was accidental, or was caused from the peculiar season, I can not tell. Who will offer a suggestion? L. B. SMITH.

Rescue, Tex.

Rendering Combs into Beeswax

BY G. M. DOOLITTLE.

A correspondent writes thus: "My bees have black brood, or at least the inspector says they have, and I wish to try to cure them by the shaking-off process. This will leave me with a lot of old brood-combs to render into wax. Now I wish you would tell us through the columns of the American Bee Journal how I can best do this."

It would seem from the many articles given on this subject that no more should be necessary; yet I am aware that beginners are constantly entering our ranks, and for these, the articles in the papers during the past are not usually at their command.

There are different ways of rendering wax, the heat of the sun, that of steam, and hot water, being those of most common use. For cappings from combs and the general accumulation of odds and ends of comb from the apiary, the solar wax-extractor is the one that I use and would recommend. With it I have no trouble in securing from 98 to 100 percent of the wax in the material put into it. And as an ordinary mortal can make one of these extractors during a spare day or two during the winter, when the common run of bee-keepers are not pressed for time, no apiary should be without one of these extractors.

The steam wax-extractors I know very little about, except the smaller ones of the past, such as the "Swiss," etc. These did their work quite well, but were slow, and required a cost for fuel which is eliminated with the solar. But for a lot of old combs, filled more or less with cocoons, pollen, etc., I know of nothing better than boiling water in a caldron or other kettle fixed something as follows:

Instead of hanging the kettle over the fire as is usually done, take a measure of the kettle on the outside, a little way up from the bottom, and go to your blacksmith and tell him you wish a piece of old, heavy wagon-tire welded so that the inside shall represent your measure. To this you want three or four (the latter being preferable) square or round bars of iron welded, at equal distances apart, for four legs. These should be of suitable size to give strength enough to support the weight of the kettle and contents, and long enough to raise the kettle from 4 to 6 inches from the ground at its lowest point.

After getting the kettle-holder home, place 4 flat stones just under the surface of the ground where you wish the kettle to stand, at proper places, so that each leg will rest on one, having it at such a point or place as will be handy for all of the work done with such a kettle, such as heating water for many purposes, boiling food for stock, etc., for the smallest part for our iron friend will probably be the rendering of wax.

After once having the kettle fixed in this way, you will never go back to any of the old ways of "hanging" a kettle, if you are at all like the writer. Besides the kettle, you will want a sack made of burlap or some other stout, open cloth, which you are to fill with the old comb, stamping it in so as to get all in as compact a condition as possible.

Next take a piece of 4-inch soft-wood plank, or two pieces of 2-inch plank spiked together will answer, though not quite so good. Now, round one side of this, so it will fit the bottom of the kettle, leaving the other flat. To the flat side fasten (by cleats or otherwise) a standard of suitable length, which should be flattened at the top and have several holes bored in it. Then get a 3x4-inch scantling, or a suitable pole from the woods, and mortice through it near one end for the top of the standard you have made, boring a hole through it in an opposite direction for a pin or bolt to pass through it and the standard. Besides this you will want a log-chain, which is usually near at hand about all farm houses. Having these things we are ready to fill the kettle two-thirds full of water and start the fire under it. In doing this use only light fuel so as not to have a hot fire after the water boils; for, if otherwise, it would be too warm for agreeably working around it, and after considerable wax was in the water it might boil over.

Having the sack stamped full of the old combs, tie the mouth of it and put it in the boiling water. After allowing it to boil 3 or 4 minutes, with an old hoe press and squeeze the sack against the sides and bottom of the kettle, rolling it over each time as you press. The wax will rise with each pressing of the sack; and if the old comb is not all in the sack, you can soon raise the mouth of it out from the water, and after it has cooled a little so you can handle it, untie, fill up and re-tie again, and so on till all is in.

When all the old comb is in the sack, and has been worked with the hoe several times, fasten each end of the log-chain to the ears of the kettle, or, if the kettle has no ears, fasten on either side of the kettle-holder, while the middle of the chain is to be fastened to the short end of the scantling or pole. Now put the rounded plank end of the standard on the sack and sink it to the bottom of the kettle, when the top end is to be inserted in the mortise in the pole, and the pin or bolt put through the desired hole. Next, go to the long end of the pole or lever and see how you can make the wax rise by bearing down. When bearing down, sway the lever back and forth, and from side to side, thus liberating the wax. If you have your lever long enough, and things fixed as they should be, you will bring hundreds and thousands of pounds to bear on the sack, and thus have a better pressure than with any of the wax-presses made, as none of these, with which I am acquainted, can give a rocking pressure while squeezing.

After a little you will have reduced the bulk in the sack so you can again shake the debris down and re-tie the sack so that the plank end will cover the whole, when with another pressure with the rocking motion every last particle of wax can be brought out to rise on top of the water in the kettle. Being sure that the wax is all out, you can hang a weight on the lever and leave it. Don't dip off the wax unless you have lots of time, and consider it only fun to do so, for I assure you that the next morning you will find it all caked nicely on top of the water, when you can break it up and get it ready for a second melting and moulding, which all wax should have before being put on the market or for using in making foundation.

After taking off the wax, take out the sack, empty out the refuse and rinse and dry the sack, when it and the rest of the implements used in this rendering are to be stored away for future use.

I know the description of this seems quite long, but I believe that in practice it is the shortest known process to get out a large lot of wax from old comb, and has to its advantage that no large sum of money has to be paid out for a wax press or extractor. If you think the iron-kettle holder too expensive, set the kettle on three stones. If stones are used, they should first be subjected to heat, else they may fly to pieces and upset the wax.

Borodino, N. Y.

Syrup for Feeding Bees

BY OTTO LUHDORFF.

Many bee-keepers will have to feed their bees again. We hear often of sour honey in combs, of bees perishing during winter, and often people do not know what the cause of it is. If bees are short of stores, sugar syrup properly made is about as good as the best honey; but not properly made, as for instance is recommended in some cata-

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logues for many years, it may often cause disaster. A certain one has this:

"If you are careless enough to let your feeding go till late, use 4 parts sugar and 3 of water, and ¼ pint of vinegar, or 10 pounds of good honey, to the 100 pounds of syrup, to prevent granulation," etc.

I beg to make the following remarks concerning this recipe:

Most vinegar of bee-keepers is probably made at home by natural fermentation, and this same product is handled by many storekeepers. Such vinegars, if not pasteurized, contain generally small quantities of fungi which will cause later sour fermentation of the thin honey. Great quantities of commercial vinegar are made from wood by distillation, and these are healthy and safe, they contain no ferment. If the vinegar naturally fermented is heated up to 55 degrees Celsius, or about 131 degrees Fahrenheit, all fungi will be destroyed, and as long as no new fungi are formed the vinegar is healthy and safe.

The addition of vinegar is recommended to cause the cane-sugar to go over into an article similar to honey—in other words, to change the saccharose ($C_{12}H_{22}O_{11}$) into dextrose (+ $C_6H_{12}O_6$) and levulose (—$C_6H_{12}O_6$).

But we can accomplish this same result without the dangerous vinegar, and with absolute safety, if we take tartaric acid or citric acid in place of vinegar.

A proper and safe recipe is: 100 pounds best cane-sugar, 100 pounds water, and 1-10 pound tartaric acid or citric acid. This should be boiled slowly from 2 to 3 hours.

Late in the season the quantity of water may be reduced, leaving the other parts in the same proportion.

Visalia, Calif.

Wonderful Organs of the Bee

BY PROF. A. J. COOK.

We often refer to man as at the head of all God's creation, and I doubt not but this is true, only, however, as the greatest development of man—the brain—stands in our estimation as the highest part of the animal organism. Man is pre-eminent only in brain and hand. I am free to say that in variety of function the honey-bee stands first—ahead even of man himself. As function must have organs, and special development, so we are not surprised at the wonderful developments that we find in our study of the honey-bee.

The bee gathers honey and must have special organs, and does have marvelous development to do this work. We know how the bee can get honey from the deep flower-tubes, from a surface on which the nectar is thinly spread, and as easily, and more quickly, from a huge nectar-drop, such as is seen in the linden-bloom and in the figwort, and of course there must be, as we know that there is, a marvelous development of tongue and mouth organs to accomplish all of this. Man has learned, through the supremacy of his brain, to discount the bee in what he does—its range and reach. Yet man has not to depend upon his modified organs to do his marvels—he fashions the means. He makes his knife and chisel, while in the case of the bee the knife and chisel are a part of the bee herself.

The bee gathers propolis or bee-glue, and has her own cart as a part of her bodily equipment, and has not to make it of wood and iron. The same equipment is used also to carry the pollen, and other proteid food. In case of the pollen there are additions, like pockets—brushes, curiously modified hairs, all useful to collect and carry the pollen, which is the special and peculiar food-element of all bees. Indeed, we might almost describe the great family of bees as that family of insects that live wholly or largely on pollen.

But there is another feature of bees that is in some respects more interesting than all, as it concerns the formation of a very peculiar secretion—wax—and its manipulation to form comb. We should expect that this would call for extra modification of organs and parts. We know that comb is one of the most exquisite and delicate structures known to man, and so anything that concerns its origin and formation is, and must be, a subject of great interest.

Wax-Glands.

Glands are the organs of secretion. Our spittle comes from the salivary glands. The function of a gland is to take from the blood elements and form the secretion. The secretion is not in the blood, but its elements are, and the gland has the wonderful power to select, from the great nourishing fluid, just the substances that are needed to form the special secretion.

The special agents of the gland that do this work are the cells. There are in every considerable gland, thousands, often millions, of these little cells—the real workers—that do this important service. Cells are the most important part of plant or animal, as all the work of every kind performed in the body is done by the cells. We have in an egg—really the yolk, the real egg—an example of a cell. The blood discs or corpuscles are other illustrations, and the individuals of the entire branch of animals known as Protozoa, consist of a single cell. While almost all of these Protozoans are microscopic, and so very minute, there are some that can be seen without the magnifier. The very minute Sporozoan, that causes malaria, is one of these Protozoans, and so is just a cell, and so very small that we can only see it as it is magnified many thousand times.

The wax from which the incomparable comb is formed, comes from glands that are situated on the under side of the worker-bee, just back of the thorax. These are racemose glands, and are much like a bunch of grapes in appearance. Of course, the grapes, in this case, are very minute, and represent—or are little sacks, the walls of which are formed by the cells already described. The stems of the grapes, and the larger stems, are represented in the glands by ducts, or tubes which carry the secretion off. There are four of these glands on each side, and so there are formed eight wax-scales at a time.

I suppose that all glands have times of rest. In many cases we know that they are inactive at times. We know that our salivary glands are only active when we are eating, and the saliva or spittle is needed. Milk-glands are only active at times of lactation, and then it is proable that only a part of the cells are active, at any one time. It is curious about the wax-glands of bees. They would seem to be wholly under the control of the bee. When wax is needed, as when there is a lack of comb, and more is to be made, then most, if not all, of the bees are secreting the wax-scales. As in all cases that we know of, the action of glands is wholly involuntary, we may be pretty sure that wax-secretion is involuntary on the part of bees.

I have often wondered how it is that the bee has, or seems to have, control of this matter of wax-secretion. We all know that when the bees need much wax, they cluster in absolute quiet in the top of the hive. In case they have just swarmed—and this is usually the case when they stand in greatest need of comb, and so of wax—they have just filled their stomach—honey-stomach—to repletion with honey. I am inclined to the opinion that the full stomach, or surfeit of food, and the stay in all exercise, give the wax-secretion.

We all have just about so much energy. If we spend this energy in one way, we can not spend it in any other. If we fret and worry we can do less work; if our cattle are chased by dogs, the cows will lose materially in milk. I once milked a great shortcorn cow on my Owosso, Mich., farm, and secured 14 quarts of milk. She was a very large, heavy cow, in full flesh. The next two days I led her to the Michigan Agricultural College. I took two whole days for this, and went very slow, as I wished to do her no harm. I thought that she could go safely 14 miles a day. The night of the second day she gave less than three quarts of milk. She did not get over the strain all the year through. I believe that the bees have about so much enegy, gauged by the amount of food that they eat and digest. If they cease from exercise, then this energy goes to wax-secretion, and we get the wax-scales and material for the comb. If this is correct, then the bees simply regulate wax-secretion by regulation of habits. Much food and great quiet means wax.

Claremont, Calif.

Have Bees Reasoning Powers?

BY W. H. LAWS.

A few years ago in company with a neighbor bee-keeper, we drove to his apiary on the Nueces River. Casting our eyes about the apiary we spied a large swarm of bees hanging on a limb about 6 or 7 feet from the ground. Taking a hive, we at once prepared to hive it. On examination we found the bees had built several large sheets of comb, as I remember, the center one was nearly as large as a dinner-dish. And there was an abundance of sealed

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brood and some little honey over the present needs of the colony. This was about sunset, and, on disturbing the swarm, they very promptly showed fight and gave us to understand they regarded that spot as their home. Seeing some transferring had to be done, we postponed the job until morning. Other important work in the apiary prevented immediate attention to the swarm, and before again disturbing them in the least, the whole swarm (not leaving a bee) decamped to parts unknown, about 10 a. m., leaving their babies and a little honey also.

Why did those bees leave? Did our disturbing them on the previous evening cause suspicion? or had their pasturage become short and exposure to depredations of robber-bees and other pilferers, caused it? Perhaps they reasoned thus: "Shall we stay here on this bush and risk our life as a colony, or shall we desert our babies and all this 10 or 15 days' labor, and go to some hollow tree where we can begin anew and be in position to protect our labor and a new crop of babies?"

There must have been some mental decision, and each member of that swarm must have accorded with that decision. I've seen large bodies of men ponder for days on matters of much less importance, and never reach a decision. Shall we accord to the bees a greater reasoning faculty than man—that personage whom, it is said, God endowed with the highest and greatest of reasoning faculties?

Beeville, Tex.

Curing Apiaries of Foul Brood

BY WILLIAM MCEVOY.

In the honey season when the bees are gathering freely remove the combs in the evening and shake the bees into their own hives; give them frames with comb foundation starters on and let them build comb for 4 days. The bees will make the starters into comb during the 4 days, and store the diseased honey in them which they took with them from the old comb. Then, in the evening of the fourth day, take out the new combs and give them comb foundation to work out, thus completing the cure.

By this method of treatment all the diseased honey is removed from the bees before the full sheets of foundation are worked out. Where you find a large quantity of nice brood with only a few cells of foul brood in the most of your colonies, and have shaken the bees off for treatment, fill 2 hives full with these combs of brood, place one hive of brood on the other, and shade this tiered-up brood from the sun until the most of it is hatched. In the evening shake these bees into a single hive, give them frames with comb foundation starters on, and let them build comb for 4 days. Then, in the evening of the fourth day, take out the new comb and give them comb foundation to work out to complete the cure. After the brood is hatched out of the old combs the latter must be made into wax or burned, also all the new combs made out of the starters during the 4 days must be burned or made into wax on account of the diseased honey.

Where the diseased colonies are weak in bees, put the bees of 2, 3 or 4 together, so as to get a good-sized colony to start the cure with, as it does not pay to spend time fussing with little weak colonies. All the curing or treating of diseased colonies should be done in the evening, so as not to have any robbing or cause any of the bees from the diseased colonies to mix and go in with the bees of sound colonies. By doing all the work in the evening, it gives the bees a chance to settle down very nicely before morning, and then there is no confusion or trouble.

When the bees are not gathering honey any apiary can be cured of foul brood by removing the diseased combs in the evenings and giving the bees frames with comb foundation starters on. Then, also in the evening feed the bees plenty of sugar syrup, and they will draw out the foundation and store the diseased honey which they took with them from the old combs. In the fourth evening remove the new combs made out of the starters, and give the bees full sheets of comb-foundation, and feed plenty of sugar syrup each evening until every colony is in first-class order. Make the syrup out of granulated sugar, and put one pound of water to every 2 pounds of sugar, then bring it to a boil.

Where you find the disease in a few good colonies after all honey-gathering is over, do not tinker or fuss with these in any way until an evening in October. Then go to the diseased colonies and take out every comb and put six combs of all sealed or capped stores in their place, taken from sound colonies, and on each side of these all-capped combs place a division-board. This will put these colonies in first-class order for winter, with little or no bother at all, and the disease crowded clean out at the same time.

But some say that the disease cannot be driven out so simply in the fall by taking away the diseased combs and giving the bees 6 combs that are capped all over right down to the bottom of the frames. It can and does cure every time when properly done, and if you will stop to think you will see quite plainly that the bees must keep the diseased honey they took out of the old combs until they consume it, as they cannot find any place in all-capped combs to put it, and that will end the disease at once.

Many bee-keepers will no doubt say that this fall method of treatment will not work in their apiaries at all, because they would not have enough of the all-capped combs to spare from the sound colonies, even if they could find some all-sealed. Very true; but you can very easily secure abundance of all-capped combs by putting Miller feeders on your sound colonies in the evenings in September, and feeding these colonies all the sugar syrup you can get them to take. Then in October each of these fed colonies can spare the two outside combs, which will be nicely capped all over right down to the bottom of the frames, and with these combs you will be provided with plenty of good stores to carry out my fall method of treatment. I finished the curing of my own apiary in the fall of 1875 by this sealed-comb treatment. All of my methods of treatment are of my own working out, and none of them ever failed when properly carried out.

Empty hives that had foul brood in do not need disinfecting in any way.

In treating diseased colonies never starve the bees, because it unfits them for business and makes them thin, lean and poor, and is also hard on the queens. I never starved any bees, but always tried to see how fat I could make them while treating them, by feeding plenty of sugar syrup when the bees were not gathering honey.

If you have nice white combs that are clean and dry, *and that never hod ony brood in them,* do not destroy one of these, as they are perfectly safe to use on any colony of bees just as they are, and are very valuable to any bee-keeper. I have always saved this class of combs for every bee-keeper. I have always advised bee-keepers to convert into wax all old combs that ever had *one cell* of foul brood in them, and the only article that will take all the wax out of the old combs is a good wax-press. As these will pay for themselves many times over their cost, I urge the bee-keepers everywhere to buy one.—Canadian Bee Journal.

Woodburn, Ont.

The "Ups" and "Downs" of Bee-Culture

BY C. P. DADANT.

I do not believe there has ever been a better time to preach perseverance to the novices and beginners in bee-culture than at present. No business in the world is more apt to encourage or discourage to excess, those who enter it, than this occupation of ours. When the honey crop is good, the bees swarm freely, and the number of colonies in an apiary increases rapidly, the bee-keeper who has but a short experience thinks he has struck a mine of the finest gold; but when the summer is too dry, and the bees decrease in numbers, go into winter quarters with a small force, and dwindle down in the spring, he is very apt to conclude that there is nothing in the pursuit worth caring for.

In an experience of some 40 years, we have seen many of these ups and downs. Some 25 years ago we had a wonderful season for swarming. I was then handling an apiary of about 60 colonies on shares, in addition to our own 5 apiaries. These bees, located near the Mississippi River bottoms had a very nice range of fall bloom. They swarmed until the number of colonies was almost trebled, and many hives filled their supers besides. The oldest son of the family, then about 18 years old, concluded that there was nothing to equal bee-culture, and assured me that he would go into the business in good earnest the following spring. But the winter was very severe. A number of

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the late swarms were not strong enough in bees to withstand the terrible cold, and scores of colonies died with plenty of stores in the brood-chamber. This changed our young man's ideas, and he concluded that if there was a "royal road to wealth," bee-culture was not on that road. I tried to explain to him that winter losses could soon be recouped as long as there were a number of colonies remaining to breed from, and plenty of combs and honey to make increase by divisions, or what is now called "shook-swarms." But nothing would do, and at his instigation the father sold me most of the bees and kept only a few colonies.

There have been plenty of instances of such discouragements after good seasons. The success and failure of most lines of business, and of many crops, are like the waves of the seas—full of ups and downs. Now you are on the crest of the waves, and now between two billows that threaten to engulf you. But with a good rudder, and a good, determined man at the helm, there is no such thing as "fail." The methods are always being improved, and the management is becoming easier every day.

But we must not expect sunshine every day, neither should we expect a storm every night. I remember that, a few years ago, a man living in the vicinity of East St. Louis had sold something like $2,000 worth of cabbages from 5 acres. The next season everybody around him planted cabbages, with the result that they could hardly be given away, and had to be shipped to a distant market. Then all those who had so willingly rushed into this business rushed out again with the same eagerness. But the man who has experience and perseverance does not give up because of a failure. He knows that after the storm, comes the sunshine, and he makes ready for that sunshine, while the storm is raging.

In this part of Illinois, the summer of 1906 and the spring of 1907 were probably the worst known in 40 years for bee-culture. At any rate, I had never seen such unfavorable conditions for bees, up to the beginning of June, 1907. But so long as we have bees enough to build up again, there is no need to give up. On the contrary, it is then that one must persevere with renewed energy, for there are going to be plenty of weak hearts, and those who give up make the market better for those who stay in the business. See the prices of honey rising. It is because of poor crops and discouragements. But some of the bee-keepers are already reaping a reward for perseverance. Those who have held on and sustained their apiaries are in many places harvesting good crops, for which they secure a good price.

This is not the case only with bees or cabbage. Take the grape-growing business. For years grapes have sold at a loss to the producer, because they were too cheap. This year, many vineyards have been destroyed, and those who took care of their grapes are securing a good price.

So dear friends, if you have had bad seasons, do not give up; care for your bees with renewed courage and firmness. But if you have had good seasons—extraordinary crops—do not imagine that there are no more storms ahead. On the contrary, take heed, for by and by, another storm will come. Bad winters and dry summers are not over; but, on the whole, remember that there is money in bee-culture for the man who "stays with it."

In my opinion, the prices of honey are destined to remain firm for many years. There have been short crops, apiaries are less numerous, and, in addition, the new pure-food law is putting a stop to much of the adulteration, so that we have a much better chance to inspire confidence in the consumer, when we tell him that we "guarantee our honey to be absolutely pure." A few years ago he might have taken this as empty talk, but he now knows that there is a penalty for deception in foods, and this is helping us out.

Hamilton, Ill.

Are a Queen's Drones Affected by Her Mating?

BY T. W. LIVINGSTON.

Our bee-books and periodicals have long taught that a queen's drones are unaffected by her mating, so that a pure Italian queen, for instance, that has mated with a black drone will produce pure Italian drones, nevertheless. Now, I think it is time for this theory to be exploded, and I propose to explode it, and I want all bee-keepers interested to hear it "bust," because facts have never failed to show me its falsity when given the chance.

Many years ago I had some 20 colonies of black bees, and, wishing to Italianize, I purchased a $5 tested queen, and from her reared queens and supplanted all my black ones, first suppressing all the black drones I could, and allowing the Italians to rear all the drones they would, so that about 2-3 of the young queens were purely mated.

The next year I thought I would have things pretty much my own way, for at that time I did not know any better than to believe what I had read on the subject, but facts always were stubborn things, and that year about 90 percent of the queens I reared showed unmistakable impurity in their worker progeny, but less, as a rule, than the impurely mated ones of the previous year. Since then I have carefully suppressed all drones from mismated queens with satisfactory results.

Last year found me with 25 colonies—all hybrids or blacks except 3 apparently pure Italians, and one Golden recently purchased, whose bees were all 3 to 5 banded. I reared queens from these pure Italians, but mostly from the Golden, and supplanted these hybrid and black queens. This year I reared my queens from the Golden, but, as I expected, this time only 3 out of 12 failed to have some black bees among their worker progeny.

I have recently visited a neighboring bee-keeper and he showed me some colonies whose queens he said he had reared from a pure Caucasian mother, but which had mated with Golden drones, and, as I expected, their drones were (some of them) fine Golden in appearance, like some of their workers. Now, who would expect that these drones mating with pure Caucasian queens, would fail to mark their progeny with the golden coloring?

Bee-keepers, you need not take my word for it, but just try it as I have done, and let the facts speak for themselves; and when you are convinced by the facts, we may then indulge in a little philosophizing as to *why* it is so. But let the facts speak first.

Leslie, Ga.

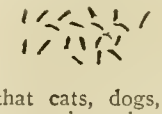
The Bacteria of the Apiary

BY ADRIAN GETAZ.

"The Bacteria of the Apiary, with Special Reference to Bee-Diseases," is the title of a bulletin by Prof. G. F. White, published by the United States Department of Agriculture.

The first point to which Prof. White calls our attention is the fact that not only the bacilli, or other kinds of bacteria which produce diseases, will be, or may be, found on or in the base, but also a number of others. Nearly always those producing putrefaction or decomposition in dead vegetable or animal substances are present in large number, not only on the bees and combs, but, in fact, everywhere. Occasionally those producing other diseases in other animals, for instance, those producing colds or consumption in the human race, may be found on the bees or on the combs, or even in the bodies of the bees where they may have been carried in, either with the food or by the respiration. As a matter of fact, however, Prof. White found much less of them than would be naturally expected.

To the uninitiated, it may seem singular that all these different germs are so different to recognize. We easily dstinguish the ordinary plants and animals because we can ascertain all the details of their organizations. But it is not so with the bacilli and other bacteria. The bacilli producing the European foul brood, when looked at through a microscope enlarging them 1,000 times look something like this:



Suppose that cats, dogs, foxes, etc., were not larger than that, how could we differentiate them? Furthermore, they are mixed with the globules of blood or fat, or particles of flesh, or other substances belonging to the animal with which they have found lodgment, and all that increased the difficulties.

The only way to separate them and study them is by "cultivation." The bacteria live at the expense of the animals or substances with which they associate. For instance, those that produce the alcoholic fermentation eat the sugar contained in the fruits. The alcohol resulting is the excreta, or matters transformed and rejected by them. The

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glue-like substance produced by the foul brood is of a similar origin. What is left after something is rotten belongs also to the same class of products. Some of these products, in fact the majority, are not unwholesome; a few are quite beneficial, but some are among the rankest poisons. The bacillus producing cholera is one. It lives in the matters contained in the intestines as well as in other parts of the body, and also in decaying substances outside. The bacillus itself is inoffensive, but its dejectives are exceedingly poisonous, and that's what kills the patient. Occasionally some of these poisonous bacilli develop in ice-creams, oysters, etc., and cause the accidents heard of now and then. A peculiarity of these cases is that the poisons thus produced kill the bacilli themselves as well as the the animal affected, or even better. The most striking examples are furnished by fevers and other diseases that run a course of a certaion duration. After the bacilli have multiplied sufficiently and produced enough poisonous matter to kill themselves, the disease has run its course, and the recovery of the patient, if he is not dead already, depends upon what strength may be left.

Cultivation of Disease-Germs.

To the one who may never have heard of it before, the idea of "cultivating" the germs of a disease must seem quite funny. But if we reflect a little and consider that these germs, bacilli, or bacteria, develop at the expense of animal or vegetable matter, living or dead, the possibility of raising a lot of them in a small vial or tube of glass is at once seen. And, furthermore, the possibility of studying them thoroughly is apparent at once. Some vials like those used for holding homeopathic remedies are usually used for the purpose.

As most of the disease-germs live at the expense of the flesh or blood of the sick animal, or in its intestines, the "medium" in which they are "cultivated," or, to use plain English, the food we furnish them, and in which they can live, is usually beef-broth or meat-juice, sometimes milk, or blood deprived of its corpuscles. Occasionally sugar syrup or gums are used—whatever the case may require. Some bacilli are not very particular, and will develop in almost anything. Others are very difficult to cultivate and cannot live except in certain substances. Quite a number have not been fully identified until the right kind of "medium" was finally discovered.

Suppose we have bees afflicted with the European foul brood, and we want to study it. A number of these small vials are prepared and filled with bee-broth, or whatever kind of medium is thought best, and then sufficiently heated to destroy any kind of germ that might have gotten in accidentally. We also make sure that the "medium" is not acid, as very few kinds of bacilli will develop where the least acidity is present. But there are exceptions. A little bit of the blood of a diseased bee is then introduced in the vial, and the stopper replaced. Then the bacilli that may be in the blood will develop in the vial and can be studied at leisure. The peculiarities of the disease—for instance, the glue-like ropiness of the foul brood—will appear in the "culture."

But that is not enough. We want to be sure that the discovered and cultivated bacillus is the one that has produced the disease. So we reverse the process. Instead of taking a little blood of the diseased bee and putting it in the glass vial, we take a little of the infected culture and feed it to a colony of healthy bees, but mixing it with sugar syrup or honey. That colony will soon show the disease with all its characteristics.

Foul Brood.

As stated at the beginning of this article, the first thing done by Prof. White and his associates was to find which kind of germs and bacteria might be found accidentally on the bees or on the combs. Quite a number are mentioned, and a few of those that might be easily mistaken for the cause of the disease are carefully described.

There are two kinds of foul brood, the European kind, which is produced by the *bacillus alvei,* and the American kind, which is produced by the *bacillus larvae.* I will not describe the diseases, as they have so often been described lately that the readers of this paper undoubtedly know what they are. The chief difference between the two is that the dead brood from the American foul brood shows considerably more ropiness and glue-like consistency than the other. The two kinds of bacilli are so near alike that they cannot be distinguished with the microscope alone. A "cultivation" is necessary to ascertain "which is which" when found. There is, however, a considerable difference in the "cultivating" results. The *bacillus alvei* will propagate easily in almost any kind of "medium." Beef-broth is the best. The *bacillus larvae,* on the other hand, is extremely difficult, almost impossible, to cultivate. In fact, Prof. White is the first bacteriologist that has succeeded.

The *bacillus alvei* was thoroughly studied by Cheshire and Cheyne between 1880 and 1885. They had the bees and all the necessary facilities, and ability to do the work. All the investigations made since have confirmed their descriptions and assertions. Cheshire was aware that there was another kind of disease similar to that produced by the *bacillus alvei,* but he did not publish any description of it.

From that time until recently it was generally admitted that there was but one kind of foul brood, and that it is produced by the *bacillus alvei.* Nevertheless, now and then came some dissenting voices. The descriptions given did not tally. In fact, they could not since there were two diseases. The "cultures" made sometimes yielded the *bacillus alvei,* sometimes not. In that last case, the operator usually succeeded in cultivating some bacillus or other that just happened to be there, but had nothing to do with the disease. Those who confined their observations to the microscope mistook the *bacillus larvae* for the *bacillus alvei,* as they are too near alike to be distinguished by the micróscope alone. As both diseases are common, both here and in Europe, it is very likely that in many of the cases observed both diseases existed together.

Finally, a few years ago, Dr. Burri, of Switzerland, discovered beyond a doubt that there were two diseases, produced by two different bacilli. He had no difficulty in cultivating the *bacillus alvei,* but completely failed to cultivate the other. On this side of the Atlantic the existence of two diseases became evident a few years ago, and one of them received at first the name "black brood."

To Prof. White belongs the honor of having cultivated and studied the *bacillus larvae* in a scientific way. After trying the usual medium without success, the idea occurred to him that since the *bacillus larvae* was living in the bodies of the bees, or rather their larvæ, it would probably live and develop in a broth made of bee-larvæ. Success crowned his efforts, and he thus was able to cultivate and investigate the *bacillus larvae.*

Bee-Dysentery.

Incidentally, dysentery came also under consideration, while Prof. White and his associates were studying the *bacilli* and other similar organisms that are found in the intestines of healthy bees.

An immense number of different kinds of such organisms are found in the lower intestines of all the animals, man included. As the matters contained in the intestines are very near the same in all, the same organisms are found indistinctly in all, or nearly so.

In studying those contained in the intestines of the healthy bees, many of those that infest the higher animals were recognized. This could be expected since the intestinal matters contained in them are very similar. As long as the movements of the intestines are regular, these organisms are carried out nearly as fast as they multiply, and do not cause any trouble. But if through some cause or other the movement ceases, then they may accumulate to such an extent as to cause serious disease. Hence the dysentery of the bees, when they are confined and do not void the contents of their intestines

Spores in Honey.

Like Cheshire, Prof. White found that the honey from the hives infected very seldom contains any foul-brood *bacilli* or their spores. However, considering how small they are, they may often have escaped observation. Furthermore, a single one might be enough eventually to infest a whole apiary.

There is quite a misunderstanding on this matter among our bee-keepers. Even our best writers are not exempt. To understand the case fully, we must consider how the *bacilli* propagate themseves. The *bacilli* of both foul-brood diseases are very small, rod-like things. They grow in length rapidly, and when they have attained a certain size they break in two pieces, and there are then two different individuals where before there was but one. These grow and divide like their predecessors, and as the process is very rapid, a division occur-

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ring every few minutes, the increase in numbers, under favorable circumstances, is quite astonishing. This process continues as long as there is something to eat, but when there is nothing left they change completely. They become almost round instead of rod-shaped, and then stop growing. They become what is called "spores." These spores are to the adult bacilli what the seeds are to the ordinary plants. They are far more resistant to extremes of temperature or chemical agents than the bacilli. The majority of them, however, dry out and die in the sunlight and the open air. Some, however, resist quite a long time. But we know how beneficial the open air and the sunlight are in all the human diseases, and how dampness and obscurity favor the development of all disease germs, molds, putrefactive bacteria, etc.

The experiments made a few years ago by Dr. Howard show that the spores of the foul-brood bacilli do not resist the sunlight and open air more than a day or two. That explains why the hives contaminated do not need disinfecting, the spores that they contain are soon destroyed by being exposed to the open air.

On the other hand, these spores will keep indefinitely in honey, but without developing. The honey protects them against the open, dry air, but on the other hand, its acidity, while not sufficient to destroy them, nevertheless prevents them from developing.

And that is where he danger exists. The spores do not propagate themselves as such. When they are placed where they can develop they turn back into rod-like bacilli which immediately grow and divide as before described.

If the bacilli could propagate in honey they would soon destroy it as effectively as they destroy the brood in the diseased colonies, or the cultures in which they are placed. But they don't. Their spores remain there without any change, and then, as soon as they are brought in contact with the brood, they begin to develop at once.

Knoxville, Tenn.

Food Value of Honey as Compared With Other Food Stuffs

BY PROF. G. L. TANZER, PH.G.

No question affecting the human race is of so much importance as that of food stuffs. Evolutionists are well aware of the fact that the two great forces — the two great agencies — by which animal species were evolved, the one from the other, and the human race from them all, are food and climate. With the latter we have nothing to do at this time, and with the former we are only to consider briefly one of the many food compounds which is offered for the appropriation of men and women, to-wit, that of honey.

It is evident to my understanding that the whole question of food stuffs is to engage the attention of scientific men in the near future, not only from the old standpoints of pure physics, but from the newer view-point of the psychological welfare of our race.

Up to the present time whatever research scientific men have made regarding the value or adaptability of foods has resulted exclusively in determining their utility in assimilation by the bodily organs of digestion and assimilation as to purely physical results.

It is fair to say that we are progressing as a race, and rising to higher summits of knowledge and experience. The time is rapidly approaching when the value of food stuffs to be appropriated by human beings will be determined not only with reference to their purely physical results, but also with reference to that assimilation of foods, which reaches out to the building up of the higher faculties.

Science is already disclosing to our vision that there is a wonderful interdependence of the life foods appropriated by a life organization. We know there is not a square inch, so to speak, of any surface of the exterior of the human body that does not contain scores of hungry mouths that are constantly devouring foods, and these foods comprehend all substance from magnetism to heat, harmony and light, or colors. Hence we see that the assimilation of food in a life organization, such as a human being, reaches to all of the qualities of substances of our universe.

Holding our subject in thought from this standpoint, we see at once that science has a mighty work on hand in determining what so-called bodily foods, or foods appropriated through the stomach, will best assimilate through the bodily organs, in conjunction with the other foods I have named, so as not only to produce the best physical results in and for the physical bodily organs, but the best contributions to the upbuilding of the psychological organization of the man or woman.

It is within our knowledge that many of the so-called bodily foods work out in their assimilation injury to the mental and psychological welfare. I am of the opinion that nearly one-half of the volume of so-called bodily foods and drinks now appropriated bring about these regretful results, and that they should be discontinued by people generally as rapidly as possible. I will further state that it is my opinion that the next quarter of a century will witness the abandonment of a great many of the foods now appropriated and will demonstrate that the people generally, especially those who enjoy the higher planes of civilization, are devouring or appropriating, so far as volume, bulk, and variety are concerned, more than double that which they should appropriate.

Men and women are eating too much, speaking from the standpoint of quantity, and are overloading the physical machinery and thereby chaining their lives to the physical, whereas by a better selection of food stuffs, they will more rapidly rise in the scale of our destined life qualities.

There are three classes of food stuffs to which I desire to direct your attention. These are honey, eggs and milk.

It is remarkable that these foods are compounded for the consumption of the human race by the three great divisions of the animal kingdom, to-wit, by the insect, the bird and the mammal tribe. The bee provides the honey, the bird produces the egg, and the mammal yields to us the milk.

It is scarcely necessary to point out to you the fact that with the exception of certain vegetables, these three food stuffs rank higher than any others known to scientific research. We find from statistics that the relative value of these three foods, that is to say, the relative fuel value of them per pound in calories, is as follows:

1. Honey	1520 calories
2. Hens' eggs uncooked, average	720 calories
Hens' eggs boiled, average	765 calories
3. Milk average of market product	325 calories

I should observe in this connection that the yolk of the egg when boiled has an average of 1705 calories and has an exceedingly high fuel value. It will be seen, however, that honey stands preeminently at the head of this list as a fuel or energy-giving value. But let me say in addition to this, honey stands transcendently higher than the other two as a life-giving food from the standpoint of its power of assimilation in supporting and developing the higher faculties of a human life organization. This partly arises from the fact that, while milk and eggs contain a considerable percentage of animal substance, honey is composed almost entirely of vegetable substance of a high quality, including only such exceedingly small traces of mineral substance, and that of such a quality as to contribute to its tonic value. We do not appropriate as food the flesh of the insect, from the laboratory of whose body the honey is compounded, but we do appropriate as food the flesh of the fowl, in the laboratory of whose body the egg is compounded. We also appropriate as food the flesh of the mammal, in the laboratory of whose body the milk is compounded. Better by far for the human race, if men and women generally would eschew completely the two latter classes of food stuffs.

Pure honey is a syrupy liquid of a light yellowish, to pale yellowish-brown color. It is translucent when fresh, but gradually becomes opaque and crystalline, having a characteristic aromatic odor and a sweet, faintly acrid taste.

Analyses of honey vary somewhat in their composition, due to climatic conditions and the sources of supply.

The average composition is as follows:

Dextrose	34.4
Levulose	39.2
Dextrine	4.0
Mineral substance	0.2
Formic acid	0.2
Water	22.0
	100.0

Let me call your attention to some observations concerning honey contained in the United States Dispensatory, a large volume well known to all chem-

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ists and druggists. This work, which is a standard book of science, behind which are such names as Dr. George B. Wood and Dr. Franklin Bache, is now in its eighteenth edition, and I regret to say that it is not up to date, not abreast with scientific research in regard to honey. On one of its pages it states that naturalists have not yet determined whether it is a secretion of the bee (apis melifica,) or exists already formed in plants. This work further says that honey probably undergoes a change in the organs of the bee, as the saccharine matter of the nectaries, so far as it is possible to examine them, lacks some of the characteristic properties of honey.

Now, let me explain to you just how honey is manufactured, or compounded, if you prefer that word. Let us see just what part the bee performs in its work and what part the flower performs. Modern science has determined that honey is the result of fermentation, and that it is not secreted as honey by the flowers. The first bee that visits a flower and enters its petal does not obtain any honey. The bee simply makes a scratch at the base of the petal so as to set at liberty the sap of the flower. After the bee has lanced the flower, it begins to "bleed," or to emit the sap. This emitted sap contains traces of starch. This sap thus exudated undergoes fermentation. When this takes place the compound honey is the result. Now, the fermenting element was contributed by the bee when it first visited the flower, but when it did not obtain any honey. After a little time the first bee, that contributed the fermenting element, was succeeded by another, which obtained the honey. Thus it will be seen that the honey does not all come from the flower, although nearly the whole volume of its substance does proceed from the flower, but that a leaven, which leaveneth the whole lump, is contributed from the life organization of the bee itself. Thus the force or principal in the honey is the product of the bee, and this sub-store of honey, like the yeast in the bread, and like spirit in life, is the active, life-giving element of the compound, which renders it unlike any other compound in the universe, and as such the most potent and the highest contributor to a human life organization.

It is indeed gratifying to observe the inauguration of a campaign to educate the public of the great merits of honey, as a food product, and it is to be hoped that the praiseworthy efforts of the agricultural press with the exhibit of the bee-keepers' associations of the Western and Northwestern States, at the Portland exhibition, will result in bringing this product into greater prominence and daily use in every household.

A good deal has been said about honey pro and con, and it cannot be denied that, to a great extent, the public mind has been influenced—unjustly influenced—against the use of this wholesome and nourishing food product, by constant cries of adulteration, and again by the publication of articles of alleged cases of poisoning by honey.

Let me call your attention to a well known handbook for pharmacists and physicians, written by Prof. Joseph Remington, one of the prominent pharmacists of the country and a professor of a pharmaceutical college. We find under the head of "Mel" (honey) the following:

"Large quantities of honey are obtained from California, the southern States and the West Indies. A still larger amount, however, is manufactured by flavoring and coloring artificial glucose." Further on he states: "Owing to the difficulty of obtaining pure honey in large cities and towns, its place in many medicinal preparations has been filled by substituting syrups or glycerine."

Can there be anything more astonishg than such a statement? Think of it for a moment. Honey substituted by syrup or glycerine in drug stores, where the term substitution should not be known, and should certainly never be practiced.

If some unscrupulous persons have in the past made, or even continue to make, or practice adulteration of honey, it would be far more satisfactory and just to all parties to locate and prosecute the offenders instead of disocuraging the use of this splendid food product, by the circulation of such literature.

Regarding some cases of poisoning by honey, which occurred in New Jersey and other States, it can be said that no case of poisoning by honey would be on record if some care were exercised in not placing an apiary in a locality where many of the Ericaceae abound, even though it appears to be an ideal spot otherwise, as it is well known that honey produced by bees having access to certain Ericaceae, acts as a narcotica-irritant.

However, such a poisonous product can generally be distinguished readily, because it never thickens; the color is redder than usual, and the honey emits a peculiar smell which immediately produces sneezing.

There is absolutely no reason why the public should hesitate to cast aside their suspicion with regard to honey, because no honey can be adulterated in such a way as to correspond to the genuine article in every detail. The chemical analysis may fail to detect the adulteration, but the spectroscope cannot be cheated.

We will now direct our attention to the fuel value of honey as compared with meat and some agricultural and horticultural products.

By fuel value is meant the number of calories of heat equivalent to the energy which it is assumed the body would be able to obtain from one pound of a given food material, provided the nutrients of the latter were completely digested:

FUEL VALUE.

	Calories
Honey, average	1520
Green Butter Beans, average	370
Green Lima Beans, average	255
Dried Lima Beans, average	1625
String Beans, (cooked) average	95
Beets (fresh) average	215
Cabbage, average	145
Cauliflower, average	140
Corn (green) average	470
Cucumbers, average	80
Kohl-rabi, average	145
Mushrooms, average	210
Peas (green) average	465
Peas (dried) average	1655
Potatoes (raw) average	385
Potatoes (boiled) average	440
Sweet Potatoes (cooked) average	925
Pumpkins, average	120
Saurkraut, average	125
Spinach, average	260
Butter (market product)	3605
Sugar (market product)	1860
Sugar (maple)	1330

The fuel value of fresh fruits is almost the same as of vegetables and I will state but a few of them for the sake of comparison:

	Calories
Apples, average	290
Apricots, average	270
Bananas, average	460
Cherries, average	365
Figs, average	380
Grapes, average	450
Oranges, average	240
Pears, average	295
Plums, average	395
Watermelons, average	140

ANIMAL FOOD.

Roast Beef, average	1620
Round Steak, average	840
Sirloin Steak, average	875
Corned Beef, average	1271

Now, it can readily be seen that the fuel value of honey exceeds some animal foods and a great many vegetables and fruits, and has the advantage of being more readily digested and assimilated than the majority of the articles mentioned.

Speaking from a medical point of view, it is a well known fact that honey has been used with great advantage for the cure of coughs and colds. It has been a favored remedy of the old-time practitioners, who no doubt would have strenuously objected to a substitution by syrups or any other substance.

In justice to the up-to-date druggist, it may be stated, that but few adopt such practices, as set forth in the handbook named, and only on very rare occasions are such substitutions practised. It is safe to say that at least in this State, there will not be found a single druggist who does not keep a quantity of strictly pure honey in stock for dispensing purposes.

In this connection permit me again to say, that the science of physics does not exercise a complete mastery over the substance of food stuffs. Science in this respect can reach, to determine their qualities, only the coarser physical elements. We must ascertain the nature of the elements contained in any food compound, not only from the standpoint of natural history science, but from the viewpoint of natural philosophy. The higher elements in a food compound may be the most potent life giving and life-extending factors in that compound. Thus it is that honey, as we have already seen, in all of the elements of its finer and higher substances can not be brought to vision, even by the science of optics. We must arrive at the fact of their existence in another way.

However, enough has been said to demonstrate clearly that honey ranks

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high as a food, and used in the proper connections with other food stuffs, it may be regarded as, in actuality it is, one of the most complete solvents for assimilation that can be appropriated in the human stomach.—Read at the Washington State Convention.

We submitted the foregoing article to Dr. E. N. Eaton, ex-analyst of the Illinois State Food Commission, who reported as follows:

"The conclusion to the article is undoubtedly correct.

"I am inclined to doubt scientific basis for statement that certain foods build up the higher faculties, or that it is advisable to eschew eggs and milk because the flesh of the animals which furnish them is used for food.

"As to the composition of honey, I believe it to be a fact that dextrose and levulose are present in nearly equal proportion; that dextrin is hardly ever present to the extent of 4 percent, and that cane-sugar or sucrose is normally in from 2 to 7 percent.

"While the statement has frequently been made that honey contains formic acid, I do not regard it as positively proven.

"The amount of calories or heat-producing power of a food is not a criterion of its food-value, but only of its energy value, presuming that it is digestible. Honey, however, has a high value in this line." "E. N. Eaton."

Conducted by EMMA M. WILSON, Marengo, Ill.

Beginning With Bees

Dear Miss Wilson:—I write to ask your opinion on getting some bees. I have wanted a few colonies for years, but not knowing how to manipulate them, and having no one near to help me, I have never started. I am not able to take a course in bee-culture, but do you suppose with the aid of a good book on bees I could learn the work? This is a very good locality for them.

(Miss) Sarah Harris.

Concord, N. C.

Whatever advantages there may be in a course of instruction, the probability is that the great majority of bee-keepers began with no other advantages than you have. Get a good text-book and put in your extra time this winter studying up on bees. Also take one or more of the bee-papers. If you are thinking of making a business of bee-keeping you cannot afford to get along without them.

In the spring get 2 or 3 colonies of bees, and you can begin to put into use the knowledge you have stored up. You will make mistakes, but that's the way to learn.

Starved Bees—A Sister's Report and Experience

Dear Miss Wilson:—I mean to have a good, solid "bee-talk" with you today, and so beg your patience and kindly interest.

Our bees at Clovernook have had a simply awful year of it. I need not recall to you what last winter was as to sustained and vigorous cold, and you doubtless know what kind of a spring and summer this northern end of Lake Champlain has caught.

Our apiary usually numbers between 80 and 90 colonies, but during the last 3 years has dwindled somewhat, so that last fall we put into the cellar only 56 colonies. These, however, were in good, healthy condition, and had plenty of honey for all reasonable demands.

Last spring I lost all but 23 colonies. There was no honey left in any of the hives, and most of the bees must have starved to death in the cellar. We have caught only one swarm this summer, and our bees were not ready for supers until August 15, when we put on 11. There is but very little honey in them now.

All this summer I have watched for a favorable condition of affairs to do some artificial increase work in the yard, for I am not content to let our apiary rest in such a reduced condition; but if a suitable time did come, my man was away, I was sick, or we had a hurried shipment of ducks to get off, so the summer had drifted by until last Monday, when I became desperate. With my man's help we placed 8 clean hives on some of the empty stands, each with 6 good worker-combs, and put into the center of every hive 3 to 4 frames of capped brood with the bees clinging to them, from the 12 colonies I had reserved for this work. Where they were good and strong in brood we took 3 frames, in others but 2, and in a single case but one. Several of the nuclei have but 3 frames of brood. The rest have 4 frames.

We did this work in the afternoon, and of course had wire screens over the entrances to keep the bees in till accustomed to their new homes. We also, after placing on the mat and cover, put on extra covers to keep the heat off the new colonies, and opened up or took off the wire-screens the following evening—Tuesday.

I think our nucleus colonies are all right so far; but of course the disadvantage of this method of increase is that we can not tell for sure where the queen is, and it is too late, really, for the bees to secure queens for themselves, as I think the probabilities are that we will get frost within the next 2 weeks.

My plan has been to use the surplus honey from our 11 supers to help out these young colonies, and to buy a few queens to supply deficiencies. I shall watch closely, and where I find freshly-laid eggs, of course, I will know the queen is present, and will mark that hive "O. K." Where no eggs appear we will reserve for the queens bought. If they start queen-cells for themselves, so we will have some extra queens, we may possibly be able to make one or 2 more new colonies.

The lowest I ever had my bees was the first fall, when we put into the cellar 30 colonies. I mean to work these up to 80 colonies as fast as possible. It seems very queer not to have a pound of extra honey, when in times past we have had as high as 5 tons from 64 colonies.

I think the cause of our heavy mortality in the winter was the jars and slamming that went on overhead. I could not seem to make my chore-man understand the importance of keeping the bees quiet.

Best wishes and kindly greeting to our "sisters"—and the "brothers," too, if they care for it. F. E. Wheeler.

Chazy, N. Y., August 22.

Thanks for so full and candid a report. It takes many and many a year's experience to stear clear of starving colonies in winter. Some colonies seem to take a spiteful pleasure in starving when they are as heavy with stores as other colonies that winter all right. As one cannot know which these exceptional colonies are, that require an extra amount of stores, the only safe way is to treat all as exceptional cases, and see that they have not only enough, but a good bit more than enough to take them safely through until they can gather again.

Early in the season preparation should be made for having extra combs of sealed honey ready for any emergency. Then at the close of the season put these heavy combs into the hives wherever they are needed.

We always weigh each colony unless we know that they are so very heavy that they are away beyond the danger-point. Whatever combs are not needed in the fall will come in very nicely in the spring to replace empty combs. We would have been in bad shape last spring had we not had 250 heavy combs of sealed honey to give our bees, although they went into the cellar very heavy, indeed, with stores. But we don't often have such a very, very bad spring as we did this year. The weather was so bad that the bees would not have left the cluster to take feed and I feel sure we would have lost heavily but for those heavy combs of honey.

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Those who are so unfortunate as not to have such combs must resort to sugar syrup or candy.

A nucleus with 4 frames of brood the third week in August ought to have no trouble in building up for winter, and in this locality they would be pretty safe as to rearing queens, but it would have been much better if there had been a sealed cell to give to each nucleus. Of course there is always some risk as to young queens heing lost, and in your peculiar climate there may be unusual loss, but let us hope for the best.

It is not certain that your heavy mortality in the winter was due to the jars and slamming. Bees will stand a lot of noise and jarring overhead, especially if it be somewhat regular.

Harvesting Sweet Clover Seed

Those readers who favored me with orders for seed of yellow sweet clover may be interested in seeing how we gather it at our house. All the help we can get from the men-folks is the

Pounding Out Sweet Clover Seed

mowing. I get one of them into the field when I think it is ready, preferably while the clover is damp or wet, so that the seed will not shell so much as it does when dry. It is then allowed to lie on the ground for a few days to finish ripening, when the girls and I go out with the buggy canvas to get the seed. We go in the morning, while the clover is damp with dew, and load up a good pile which we leave till towards evening. It is now thoroughly dry, and yields very readily to the feet and sticks of the harvesters.

Day after day we do this *until the crop is in.* I like to get the seed off the ground even if no one wants it, for if left on it seeds itself too heavily. Treated as we do, a field gives good results year after year.

(Mrs.) A. L. Amos.

Comstock, Neb.

Swarm Settling on a Sister's Face

While Miss Richards, of Mabe, Cornwall, was watching her bees, a swarm suddenly settled on her face and neck. Fortunately, she had courage enough to allow them to remain undisturbed, and eventually the bees were successfully drawn off and hived, without having caused the slightest injury to Miss Richards. I thought an incident so unusual and so illustrative of the lady's courage would be worth recording.—British Bee Journal.

A Sister's Experience In South Africa

At Marian Hill, one of the sisters from the cloister was trying to capture a wild swarm which a Kaffir woman had told her about. She thus tells the story according to Unterfr. Biene:

"* * * * * * Alas, with lightning speed and great noise and confusion came the whole swarm flying upon me. I had the feeling as if great hail-stones had fallen from the sky upon my face. I shook my head, but it was no help, the swarm hung fast. Apparently they had first settled on my frontlet, for the swarm was very heavy, and lay thick upon my face, and hung down like a beard over my breast. There I stood, blind, deaf and dumb. Head and neck behind the veil were covered solid, so that I could no longer move my head. Directly I felt a difficulty of breathing, and tried to open my mouth to get a little air, but immediately the bees tried to get into my mouth, so I was obliged quickly to close my lips again. At first I could get some air through the nose, but the bees crept also into the nose-holes. So I was obliged to look forward to a fearful death-struggle.

"The sister with me didn't know how to help. I took a memorandum book from my pocket and wrote on it that she should run to the mill, some 10 minutes away. Trappists were there at work, and she should bring a queen from Brother Caspar who kept bees. After a long time I finally succeeded in getting the bees onto the scapulary; from there I shook the swarm into the swarm-catcher, and ran away, glad to escape from death. If I had undertaken a struggle with the bees, and resisted the attack, they would certainly have killed me."

The sister relates that only a few bees stung her; but they scratched her face with their claws, and with their little tongues and jaws had picked and bitten her, and especially burrowed continually into her eyes.

Wintering Queens the Third Winter.

E. W. Alexander having advised not to try wintering a queen the third winter, Dr. Miller raises the question whether there is not a difference caused by locality, strain of bees, or something. He has had in his hives the past season 24 queens that had passed their third winter, and says:

"I don't see but they average fairly with others, some of them the best. I don't believe longevity in bees is appreciated as it should be. If six weeks is the average life of a worker in summer (lately the tendency is to discount that a little), and if it takes to the field at 16 days of age, then a worker that lives 48 days instead of 42 ought to gather 23 percent more than the average. Even if it lives only a day more than the average, it ought to gather 104 pounds for every 100 pounds gathered by the average bee. If a strain of bees has queens that last three years and do good work, and another strain has queens that are good for only 2 years, would you not naturally expect that there would be a difference in the ages of the workers from the 2 queens? And how will you encourage long life in the workers any better than by favoring long life in the queens? The thing is worth thinking over."—Gleanings, 1128.

Vitality of Queen's Eggs.

J. L. Byer says, in Canadian Bee Journal, that one of the best known and most successful apiarists "claimed that if a comb was inserted in the brood-nest in the fall, when the queen was yet laying, and then taken out again as soon as eggs had been deposited, these eggs would develop the following spring if the comb was put in a hive again. The comb could be stored any old place, at a zero temperature would not hurt the eggs in the least."

Longevity of Bees.

Mr. Beuhne says we can't have short-lived queens and long-lived workers. Roughly speaking, he requeens every 2 years, but his extra-good queens are allowed to live as long as they will, and by breeding from such queens he secures longer-lived workers. H. L. Jones says he has a very yellow queen 6 years old that is doing good work still.—Australasian Bee-Keeper, 232.

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Conducted by J. L. BYER, Mount Joy, Ont.

Fall Honey Crop a Failure

Throughout many sections of Ontario there has been a total failure of the fall crop of honey. Consequently feeding now is (or should be) in full progress. In our own apiaries we find it necessary to feed just about as much as was taken away earlier. Pretty discouraging; but wait till next year!

Short Crop and Honey Exhibits

Although the honey crop in Ontario this year is very short, if any one had no knowledge of this condition and should take a stroll through the honey exhibit at the Canadian National Exhibition, he would not be apt to think that such was the case. Our American cousins quite often give our Canadian bee-keepers the credit of being able to produce good honey, and also of knowing how to put up a good exhibit. Results at the Pan-American would seem to bear out such assertions, but aside from any opinions of past exhibits, the display, both as to quality and staging at the present Toronto Fair, is certainly of high merit. That the honey went in "streaks" this year is shown by the absence of some exhibitors who usually are in evidence. Messrs. Arthur Laing, George Laing, E. Grainger and D. Anguish, are the only bee-keepers showing any quantity of honey, and these four gentlemen certainly are to be congratulated for the trouble they have taken to arrange such large and attractive exhibits.

Mr. Arthur Laing has an original and unique display in the shape of a complete apiary in wax. The honey house is *sheeted* with comb-foundation, and the miniature hives and stands, which are perfect models of standard goods, rest upon a moss-covered lawn. As an educational feature such an exhibit cannot fail to be of great value.

Mr. E. Grainger has observatory hives in which Italian, Carniolans and Caucasion bees are shown. As is usually the case, the center of interest for visitors is the queen, and quite amusing it is to stand near a live bee-exhibit and listen to the different comments and suggestions of people, as they are looking for her Majesty.

Mr. Grainger tested the Caucasian bees this year, and says they did not do nearly as well as the Italians. I am inclined to think that the boom for Caucasians will be short-lived; in fact, we are not hearing nearly so much about them as a year ago at this time.

McEvoy Treatment of Foul Brood

On page 63, in Bulletin No. 70, issued by the U. S. Department of Agriculture, there appears to be some misunderstanding as to what the McEvoy treatment for foul brood really is. A number who claim to use the McEvoy system, omit one of the most important details—the second shaking. While once shaking will often cure mild cases, the second shaking is necessary to secure uniformly successful results. For this reason Mr. McEvoy has always insisted on shaking the bees on full sheets of foundation, after having for 4 days been on foundation starters.

In the Bulletin referred to, Dr. Phillips is credited with saying, "He [Mr. McEvoy] recommends the second shaking after the bees begin to drop from starvation." While no one will think for a moment that Dr. Phillips would knowingly misrepresent Mr. McEvoy, yet to show that just the opposite to starving is Mr. McEvoy's advice, I quote the following from the pamphlet entitled, "How to examine apiaries and cure them of foul brood," issued by the Ontario Department of Agriculture:

"In treating diseased colonies never starve the bees, because it unfits them for business, and makes them thin, lean and poor, and is also hard on the queens. I never starved any bees, but always tried to see how fat I could make them while treating them, by feeding plenty of sugar syrup when the bees were not getting honey."

Bees and Horticulture

From a report relative to the peach crop, lately issued by the fruit-growers of the Niagara peninsula, I clip the following:

"The earlier reports sent out of an average crop were too optimistic, based on the number of fruit-buds. However, owing to the late cold spring, and the absence of bees at the right time to fertilize the blossoms, the fruit did not 'set,' and consequently men who were counting on thousands of baskets will now be glad to obtain that many hundred."

It is gratifying to note that all progressive fruit-growers now recognize the honey-bee as a necessary adjunct to successful horticulture. Not so many years ago, such was not the case, and as a consequence complaints of fruit-trees being sprayed while in bloom were quite prevalent. Now all this is changed, and it is only on rare occasions that we hear of the law against spraying being violated. When a man is once convinced that the doing of a certain thing is detrimental to his own interests, such knowledge is of more effect than any law compelling him to refrain from doing this same thing because of the injury resulting to others. At the same time, the law against spraying trees while in bloom, has answered, and is answering, its purpose, and possibly has been the means of helping to bring about present satisfactory conditions. It is surprising that at least one of manufacturers of sprayers continues to send out with his machines, circulars in which it is advised to spray while trees are in bloom. It is needless to say that said manufacturer does not live in Canada, but the wonder is (no matter where he lives) that he manages to sell his machines to enlightened fruit-growers. Certainly the bee-keepers should "sit" upon such a man, and "sit hard," too.

Stingless Bees All Dead

One of the most fascinating experiments ever attempted in apiculture, according to Discovery, was begun last summer at the American Museum of Natural History, New York City, and has ended, as was expected, in failure through the death of the insects.

The subjects of the experiment were a colony of brown stingless bees—probably the first ever seen in New York.

They were brought from the interior of Venezuela. In the insect gallery visitors could see them busily at work in a glass-covered box, in which they had built the queerest nest imaginable. Rising to a peak, it resembled nothing so much as an irregular, jagged mountain, of a very dark chocolate color.

The box was placed at a sunny window, in the lower frame of which small apertures connecting with the box afforded egress and ingress to and from the outside world. The little foreigners when installed immediately set about making themselves familiar with the city and its parks and the surrounding country.

Hard by, at another window, was a colony of American honey-bees, stingers these. The visitors were brought to the United States with the idea that they might be crossed with the honey-bees and a new stingless species thus produced combining this advantage with the superior qualities of the native insect.

The species were so remotely related and the habits of the stingless variety so highly specialized, however, that the scientist at the museum considered hybridization to be an impossibility.

The honey of the stingless bee, although much appreciated in Cuba and South America, where if is supposed to possess valuable medicinal properties and is an article of food, is very inferior both in quality and quantity to that of the honey-bee. As pollen gatherers, however, they are vastly superior to the latter, being able to carry much heavier loads and to work longer and

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in weather when the honey-bee would not venture out. In this capacity they would have been important allies of the agriculturist in the cross-pollination of flowers and in increasing the fruit supply.

Through the long warm days of summer and while the woods took on their autumn tints the stingless bees, which when they arrived numbered about 300, thrived and multiplied amazingly, but the chill, drying winds of the late fall brought disaster to the busy inhabitants of the hive.

They did not seem to mind the cold so much. Indeed, their resistance to it was a matter of astonishment to the experts. What they could not bear up under was the dryness which comes with the approach of winter. The hive box was taken from the window into the warmth of the steam-heated museum and honey in abundance was given to the workers, which at once began storing it in their pots. But indoors the air, if comforable from the point of view of temperature, possessed, like that outside, the fatal quality of being too dry, and though fighting bravely against this unaccustomed and impossible condition, the bees one by one died off, until now none remains.

Of late we have not heard much about the stingless bees, through the columns of the apicultural press, and it seems we have to "go away from home to get news." Just how much of the foregoing is truth, and how much is reporter's twaddle, would be interesting to know. Who can give us the necessary information?

Bee-Management for Beginners

The month of May, 1907, has been perhaps the most backward for the bees, as well as for everything else, on record. It contained fewer good days—days in which the bees could fly and gather honey and pollen—than usually occur in the month of April. Only bees that had abundance of honey in their hives early in the spring have been able to pull through, unless feeding was resorted to to keep them supplied and to keep the queens laying. Snow has fallen several times during the month, there being half an inch or so on the morning of the 28th. Even at the best of times the cool nights prevented the secretion of nectar in the dandelions and other early flowers that persisted in blooming in spite of the weather.

The beginner who succeeded in having his bees come through the past winter and spring in good condition may rest assured that the conditions existing in the hive last fall have stood the most severe test successfully, and if he knows just what those conditions were, and can have them the same every year, he should never be troubled with winter and spring losses to any extent. But the same conditions do not always produce the same results, and "beginners' luck" often makes the novice's hat too small for him. It is almost safe to say, however, that none of the younger class of bee-keepers has come through the past month with the idea still clinging to him that bee-keeping is all "beer and skittles," and the earlier in his experience the beginner learns this fact the better it is for him

But that is in the past—or should be by this time, if we are to have any honey season at all this summer, and what is no doubt worrying the beginner now is, when to put his supers on and a few other things like that. The average beginner seems to have an idea that, as soon as a hive appears to be full of bees, they are ready for a super, or top story. This, however, is not always correct. Let us see:

The super is for receiving the surplus honey, that is, the honey gathered by the bees over and above what they require to feed themselves, and the brood in the hive, and to produce wax (for the production of wax by the bees necessitates the consumption of a large amount of honey). Now, the mere fact that the bees appear to be carrying in a lot of honey is no sign that they need additional room to store. Perhaps they are not carrying nearly so much as would appear to an inexperienced person to be the case, and until clover is well in bloom, it is seldom, very seldom, that the bees gather honey faster than they use it, for they use it wonderfully fast at this time of the year. There are cases where a hive becomes so crowded with bees before the rush of the white honey harvest commences that it is necessary, or advisable, to add an upper story to prevent too much crowding, which induces swarming. In these cases, if the bee-keeper has any dark-colored combs, a hive-body filled with these is placed over the colony and the queen allowed to occupy them with brood until the time arrives for putting on the white combs or the section supers to receive the main honey-flow, which, as mentioned above, comes chiefly from clover and basswood over most of Ontario.

When the rush of honey begins, this upper story of combs is removed, and any containing brood may be given to colonies which lack one or two combs of having their hives fully occupied with brood of their own. The bees must, of course, be shaken or brushed (brushing is better for combs containing brood) into or in front of the hive from which the combs are taken. If, before lifting the upper story off, a few good whiffs of smoke are sent down between the combs, the queen, along with many of the bees, will be very likely to run below and so be out of danger of injury in handling the frames. Allow about a minute for the bees to run down after the smoking before lifting off the upper combs.

How are you to know when honey is coming in faster than the bees are using it? When clover is nicely blooming and you see the bees coming in with heavy loads—so heavy that they often have trouble in navigating, and fall short of the entrance of the hive when returning to it—take a peep in the top of the hive. If you see, between the top-bars of the frames, that the bees are whitening the edges of he combs with new wax, and depositing little flakes of white wax on the sides of the top-bars, as if they were looking for a place to build more comb, it is a sign the supply of honey is greater than the demand, and the time has arrived for the storing of surplus honey if there is to be any worth storing.

When you see these conditions, remove the cover and the cloth under it, if there is one, and there should be. If running for extracted honey, put on a queen-excluder, and on that place the super of combs or full sheets of foundation. Put on the cloth and cover, and there you are. When running for comb honey, a queen-excluder is not generally used, as a queen will not lay eggs in the small combs in the sections, except in very rare instances. When the white honey-flow begins, any colony which has not yet filled its hive with brood and honey may be contracted by having the combs which are not occupied removed and replaced with "dummies" or blocks of wood the size and shape of a comb. This prevents the bees from expanding their living-room sidewise and forces them into the supers. If the combs below are left in their places, the bees will fill them principally with honey, before going into the supers. This principle of contracting the brood-chamber to hasten the storing of honey in the super is all right when one wishes to see how much honey he can secure from his bees, without regard to how much feeding he will have to do in the fall to get his colonies up to the winter weight. The writer prefers not to be greedy any more, but to let the outside lower combs be filled solid with the best honey there is, which is none too good for the bees in their long winter confinement. Buckwheat honey may be all right for winter stores where no honey-dew is stored along with it, but that's not in Victoria county, as some bee-keepers have learned to their sorrow during the past two winters.

It seems early to be talking about getting ready for winter, but if you are going to be a successful bee-keeper, there is one thing you must keep in your mind in all your season's work, and that is, that there is a winter coming. Don't think that because honey is rolling in in June that it is going to keep on rolling until the fall. If you do, you will render yourself liable to disappointment. Clover lasts about 6 weeks, as a rule. Basswood follows it (sometimes) and lasts from 2 to 10 days. When basswood is done the white honey-flow is past.—E. G. HAND, in Canadian Bee-Journal.

Fenelon Falls, Ont.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Empty Comb, Not Empty Space, Prevents Swarming.

Listen to what that veteran bee-keeper, Moses Quinby, wrote: A large amount of room filled with empty comb will entirely prevent swarming; and years of experience and experimenting has proven that Mr. Quinby was right. Let me illustrate this thing for you a little further: Let a strong colony occupy a dry-goods box, the same being 4 feet square on the inside, they having a space of only about 2,000 cubic inches occupied with comb, and that colony will swarm, notwithstanding all the room there is in the box. But if the whole box is filled with comb, no swarm will issue under the conditions described. —G. M. Doolittle, in Gleanings in Bee Culture.

Breeding for Non-Swarming.

At the convention of Victorian apiarists, the prevailing opinion seemed to be that much could be done by proper selection toward breeding out the swarming impulse. W. Garrett was reported as having a colony that had not swarmed for 2 years, and by breeding from that colony he reduced swarming to 5 percent. H. L. Jones said that 20 years ago he was frantic through chasing swarms, and has no trouble now, through rearing his queens under a non-swarming influence. Mr. Bolton said that by rearing queens out of the swarming season he had almost reached a non-swarming strain.—Australasian Bee-Keeper.

Hutchinson and Late Extracting.

Editor Hutchinson has become an advocate of leaving extracting-combs on the hive till the close of the season, and is quite enthusiastic over it. He says, "It is then perfectly ripened and all sealed over, and has a body and flavor I never dreamed until I put this method into practise."

As to having the honey warm enough to work well, he says:

"Honey warmed up artificially to as high a degree as it will bear without softening the combs too much, can be extracted quicker and cleaner than honey as it usually comes from the bees."

He thus gives particulars as to heating, in the Bee-Keeper's-Review.

"Last year I heated up the honey by means of a coal-stove; this year we are using a Perfection kerosene-oil heater; and it *is* perfection. It is the first oil-burning stove I ever saw that would not smoke. It has a cylindrical wick, and just above the wick is a round plate of iron called the 'flame spreader,' and the wick is turned up until it strikes this 'spreader,' when it can go no higher, and it won't smoke and can't be made to do so. One end of the honey-house, or cellar, is partitioned off, making an 'oven,' as we call it, large enough to hold 50 or 60 supers. We fill this up at night, light the stove just before we go to bed, and turn the wick part way up, so that the temperature at the top of the room will stand at about 100 degrees. In the morning we re-fill the stove, turn it on full blast, and go to extracting, taking the first supers from the top of the room. As some of the piles are lowered, more supers are taken from other piles and added to these, thus bringing more honey up into the heated 'zone.' As fast as there is vacant room, more supers are brought in, and sort of a routine is followed whereby one always has hot honey to work; and more a-heating. It uncaps so easily, extracts so easily, and strains so easily."

Several Queens in One Hive Without Excluder.

First, prepare a small box, about five or six inches square, by boring a one-half-inch hole in one end. This you will for the present close, then remove a part of its two sides and cover with wire cloth so as to ventilate it well. This we call our introducing-box. Take this box and a common queen-cage to the colony to which you wish to introduce your choice queen, or several of them, in fact; remove its combs and put its queen, without any bees, into the queen-cage you have. While doing this shake about a pint of bees of the colony into the introducing-box. Close it and take all their combs from the colony. These can be placed on top of almost any hive until next day. The hives now made broodless, fill about half full of combs containing some honey *but no brood.* Leave the colony alone until about sundown, after which it will show distress over the loss of its queen and brood. Now take the box of bees to the honey-house, and at the same time the queen, but don't set them near each other. The bees in the little box will soon miss their queen and have lots of trouble.

After they have been confined about five hours prepare some warm thin honey, placing it in a dish so that, by laying the box on one side, the bees can easily reach the honey through the wire cloth, but can not daub themselves with it. Leave them this way until you are sure that every bee in the box is as full of honey as it can be, then give them a little shake and remove the cover from the hole in the end of the box (remember it is about five hours since they were confined in the box), and let run in any number of queens you wish, including their own mother. Now return them to their dish of honey so they can help themselves to all they can eat until about sundown; then take this introducing-box with its bees and queens to the hive from which you took the bees and their queen in the morning; set them to one side and feed the colony all you can induce it to eat. Remove some of its combs and pour in some of the honey you have been feeding to the bees in the box. Shake some of this honey out of its combs on these bees, so every one will soon be full. Now remove the cover of the introducing-box and set the box in the hive alongside the combs. Close up the top of the hive, and in the morning all the bees and queens will be clustered on the combs, and some of the queens will have commenced to lay. You can now give them the brood you took away from them the day before, or let them fill their combs with eggs, which five queens will do in three or four days. That is all there is of it.

You now have the colony all together with their brood and their mother-queen, and as many other queens as you care to have in one colony. There has not been a queen balled or injured in any way.—E. W. Alexander, in Gleanings in Bee Culture.

Root Routs Robber-Bees.

It is not to the credit of a bee-keeper that he allows conditions that induce robbing; but sometimes a case will happen even with the most experienced, and when bees have a good start at robbing it is not the easiest thing to stop them. Editor Root has a plan that would seem to fit the most desperate case. He says, in Gleanings in Bee Culture:

"Very lately we have found a remedy that does away with the whole trouble, and that, too, within a very few hours. This consists simply of the use of a robber-trap. This is nothing more nor less than an ordinary hive having a contracted entrance and a bee-escape on the inside, so placed that bees can pass in readily but not out. A wire-cloth cone, or, perhaps, better, a regular Porter should be used.

"We will assume that a bad case of robbing has suddenly developed in which the colony or nucleus is nearly overpowered if not entirely so. If the attack is confined to the one colony, the problem is much simpler. In that case we remove the attacked hive immediately, and put it down cellar with the windows all darkened but one, so that the bees that do not belong in the hive can escape and go back. On the stand of the hive of the colony removed we put the hive with the bee-escape on the inside of the entrance, or what we will call our trap, when, presto! all the robbers will rush into this hive and be imprisoned. It is only a matter of an hour or so before they are all caught; and what was once a perfect uproar in the yard will now be as quiet as though nothing had eved happened. When this condition prevails, or toward nightfall, the attacked colony that was put in the cellar is put back on its own stand, but with its entrance contracted down to a space so that only one bee can pass at a time. A frame of young bees is shaken into the hive, and nearly all the

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honey is taken away, if any is left, and in its stead will be given a cake of hard dry candy. The robber-trap, with its gang of mischief-makers, is now put down cellar where it will be cool, and where there will not be much danger of suffocation. Strips of broken sections, or any pieces of wood not more than one-eighth inch thick, are now carefully slid between the cover and hive-body containing the confined bees. One of these is placed at each of the four corners. This will make a gap of one-eighth inch between the cover and the hive, or a crack just too narrow for the bees to pass through. This is to give the bees ventilation; and a cellar is just the place to put a lot of confined bees. After being confined for two days they may require to be fed. We would advise keeping them shut up for a week, or better, take them to an out-yard or some location about two miles away from the scene of their recent pow-wows. Give them a queen or queen-cell, and let them start house-keeping."

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Feeding Back Honey in Shallow Frames

1. I have a number of shallow frames of honey, and no extractor. I wish to feed them back to the bees. What is the best way to do it?

2. Some of these frames, which were left in hives and put in a room upon being taken from the hives where they were made, have become infested with wax-larvæ. I have fumigated them with bisulphide of carbon. Will it be all right to use these to feed back?

IOWA.

ANSWERS.—1. I suppose the frames are the same in size as those of the brood-chamber, only not so deep. While it would be better if they were full depth, it will work very well to use them in place of full-depth combs, putting them in at the sides. Very likely you can not thus dispose of them all this fall, but they will come in very handy in the spring, when you will take out any combs that are emptied, or nearly so, and put in shallow ones. Of course, you must look out that they do not get too close to the brood-nest, for it would make trouble if brood should get into any of them, and they must be removed before the queen has a chance to lay in them.

2. Yes.

Moving Bees—Preparing for Winter—Increase

Some time ago I bought 5 colonies of bees. What is the best way to move bees from place to place? to prepare them for winter? to increase my stock.

INDIANA.

ANSWER.—If bees are moved as much as a mile there will be little or no trouble about their returning to their old location. If moved only a few rods, with no precaution, nearly all the field-bees will return to the old location upon their first return from the fields. To prevent this, screen them in the hive for a day or so, then just before opening the entrance thump good and hard upon the hive so the bees will be excited and mark the location when they come out. A board placed in front of the entrance for them to bump against when they come out will also help. If you wait till they have stopped flying for a week or so, they will stay pretty well wherever they are put without any precaution.

To answer fully your other questions would exceed the limitations of this department, which is meant to supplement the teachings of a book of instructions in bee-keeping, and not to take its place. If I should take up several pages telling all about making increase, the old subscribers would raise a hornet's nest about my ears for taking up room with stuff that might be copied from any good bee-book. If you cannot have a paper and a book, too, let the paper go and get the book. You'll find a whole lot of things in it, any one of which will be worth the price of the book; and when you have become familiar with it there will still, most likely, be questions you would like to ask, and such questions will be answered most cheerfully in this department.

Getting Rid of Ants

I have a colony of bees that are mixed with black ants. I saw some on the hive last spring as soon as warm weather commenced. Taking off the lid to see if there were any honey in the supers, I found that there looked to be almost as many ants as bees. How can I get them separated without killing the bees? I am a beginner and have read about ants being troublesome, but know no way to get rid of them.

NEW JERSEY.

ANSWER.—The probability is that there is not so thorough a mixture of ants and bees as you suppose, for unless the bees are exceedingly weak they will not allow the ants anywhere inside the brood-nest itself. Very likely you use quilts, or in some other way there is a chance for the ants to find shelter somewhere where the bees can not reach them. When I used quilts, the ants seemed quite fond of making their nests on top of the quilts, perhaps mainly for the sake of the warmth to be found there. With board covers that afford no such protection from the attack of the bees, the ants keep their distance. Logically, the thing to do is to avoid making any such shelters where the bees can not get at the ants.

Sometimes the ants have their nests outside, and annoy the bees by trying to get in. In that case, trace them to their nest, take a crowbar and make a hole into the nest, pour in 2 or 3 tablespoonfuls of bisulphide of carbon, and cover up quickly. If too much trouble to get the bisulphide, gasoline will do some good.

Whether the nest be inside or outside, you may poison the ants. Take 2 thin little boards, put a piece of wood ⅛-inch thick or less (a piece of section is right) between the 2 at each side, and that will allow the ants to get between them but keep out the bees. Now put Paris-green or some other poison mixed with honey between the little boards, but not near enough the edge for the bees to reach it, and place where it will be convenient for the ants.

Ants in Hives

What is the best remedy for ants in bee-hives? OHIO.

ANSWER.—Prevention is better than cure. Have no place in the hive that an ant can go and a bee can not. If the ants have nests outside, pour bisulphide of carbon in their nests. Gasoline will also answer pretty well.

Ventilating Hives—Tiering Up Hives in Wintering—Replacing Brood-Combs

1. To give ventilation to a dovetailed hive on a reversible bottom, would any harm come from sliding the hive backward until there is a bee-space between outside edge of back of bottom and inside edge of back of bottom, or would sliding the hive forward be better?

2. To what extent would you advise tiering up hives for outside wintering, say not more than 2 or 3 high?

3. To utilize all room on my 20-foot platforms next season, is it advisable to place hives 6 inches apart, with entrances alternated north and south?

4. I wish to replace all of the brood-combs next spring with frames of full sheets of foundation, leaving the 2 best combs for the outside ones. Is this going it too strong, provided I do it when fruit-bloom is on? IOWA.

ANSWERS.—1. Sliding back would make the bottom-bars rest on the rim of the bottom-board, and the bees would glue the two together, so sliding forward would be better. When

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working for extraced honey it is a good plan to have an opening above for ventilation, by shoving the upper story forward so as to leave a crack of ¼-inch. Even when working for comb-honey I make use of this kind of ventilation during the hottest part of the season.

2. Except the labor, and the trouble to the bees in changing the location of their hives, I know of no objection to piling up hives 3 or 4 high, and there is some advantage in the matter of heat.

3. That will work, but you will probably find it better to have them in pairs, the first 2 facing north, the next 2 south, and so on. The bees are not likely to make a mistake in getting into the wrong hive of a pair; much more likely to make a mistake in a row alternately facing in opposite directions.

4. Yes, that would be going it rather too strong to ask the bees to give up their brood and start all anew at a time when every effort should be made to increase the force for the coming harvest. Wait till just before the time when there is danger of swarming, and then it will be what is so popular with many, shaking a swarm.

Using Brood-Frames for Extracting Frames—Old Honey-Extractor

I have some American frames about 12x12 inches inside, with a bar across the center, top-bars 1⅜ inches, and notches for bees to pass up through. The swarms were hived on starters in 1905, and the frames have been used for brood ever since. I want to discard them as brood-frames, and had thought of making supers and using them for extracting, over 10-frame Langstroth hives. Of course, the frames would be crosswise, also the supers, and being about an inch narrower than the hives, it would leave an offset at each side for bees to travel over when going up the side of the hive. There is considerable drone-comb in these frames.

1. Would these combs cause the honey to be inferior in any way?

2. Would bees store nearly as much (or quite) as in other extracting frames?

3. Do you think it would pay me to use them for extracting?

4. If I buy a 2-frame non-reversible extractor 25 years old, will I be sacrificing many improvements?

PENNSYLVANIA.

ANSWERS.—1. Honey in those combs ought to be as good as in any combs used for the same length of time for brood-rearing. Generally it is considered that there is no difference between extracted honey taken from new combs and that taken from the very old, black combs. Some, however, who want to get the very lightest honey for exhibition purposes prefer new combs. If you take a very black comb and let it stand for some time filled with water, the water when thrown out will be pretty black, and it is claimed that honey in such combs will also be to some extent colored. But for ordinary purposes the difference is not considered.

2. There ought to be no difference.

3. Yes, but for the sake of having all frames alike many would prefer to transfer the combs into your regular frames.

4. Your question itself suggests that one of the improvements would be self-reversing—a matter of considerable importance. If you do a small amount of extracting, the probable difference in price would over-balance any disadvantage; if you do a large amount, better pay for all the improvements you can get.

Queer Noise Among Bees

What is it that I hear in my Italian bee-hive this time of year? It makes a fuss like a queen. I heard the same noise last spring before I shook a swarm from it. Those bees have always done queer things. Are there 2 queens in there? and are they destroying one?

ANSWER.—Without hearing the noise I cannot say what it means, and possibly I couldn't say if I should hear it. I've often put my ear to a hive and heard the bees making various noises without being able to make anything out of it, except the piping or quahking of young queens when an after-swarm is contemplated. It is, of course, possible that 2 or more queens are present in the case in question.

Bees Troubled With Moth Larvae

My wife's father has a colony of bees here that are not doing well (Aug. 6). They swarmed along the fore part of July or the latter part of June. I was not here then and the folks did not see them swarm, but I am confident they did swarm, as there were several indications to show that they had. They seemed to be gathering some honey and had quite a lot of bees, some having gone to the super, but they had not stored an ounce of honey in the super, and had been carrying out lots of young bees, in size from the small larvæ in the bottom of the cell to the bees just emerging from the cell. On opening the hive yesterday I found a lot of honey and pollen in the comb, brood in all stages, and 7 out of 8 frames with eggs. The older bees that were carried out seemed to have a sort of white web around them which made them unable to fly, and in some cases almost unable to walk. There were a few moths in the hive last spring, but none in the combs that I could see. I found a few moth-worms under the frames covered over or hemmed in with wax. What is the disease, and what is the remedy for it? The bees do not seem to build up as they should, but there is plenty for them to work on and other bees are doing fairly well now. IOWA.

ANSWER.—The bee-moth is the miscreant that causes the whole trouble, almost certainly. The larva of this pest makes its gallery of silk along the surface of the comb and deeper, and the young bees thus injured are thrown out of the hive by their older sisters. It is hardly fair, either, to say that the bee-moth causes the trouble. The cause is a weak, inefficient colony, and the bee-moth comes in only because the colony is not vigorous enough to resist.

The remedy is a stronger colony, or bees of greater vigor. Italian bees are greatly superior to blacks in fighting off the bee-moth, and if your bees are black, the introduction of Italian blood is the thing indicated. It is also possible that the queen is at fault, either through age or some other cause. The case is worse if there are more combs than the bees can cover.

You may do something to help the bees get rid of the larger worms present. Take out a comb, note where a worm has built its gallery, with the point of a wire-nail pick a hole in one end of the gallery, then start at the other end and pick along till the worm drops out, when you can treat it as your conscience dictates.

Queen Passing Through Entrance-Guard—Swarm Deserting—Introducing Queens

I bought a full colony of Italian bees, which were shipped by express in a shipping-case. As soon as I hived them, off they went. I caught the swarm and hived them again. I saw the queen go in, got almost all the bees in the hive; put on an entrance guard, and a half-hour later all the bees were out again on the same tree. I did not bother with them any more, but before night they all went back to the hive. The next day the same thing happened, and I did not see her any more. The bees went to work. I had put on only starters. Three weeks later 2 frames were fully built and 2 half built, but laying never began. I am sure now that there is no queen at all.

1. Can a queen pass through an entrance-guard?

2. Why did the bees go out after I had hived them in a new hive with foundation-starters?

3. I never use either veil or smoker while I examine the hives, and take the frames out one at a time, and never was stung. Why did they sting me the last time? Just as I had removed the cover they rushed at my face and I got 3 stings.

4. What is the best method of introducing a queen to a queenless colony?

LOUISIANA.

ANSWERS.—1. Not if the entrance-guard is perfect and the queen of normal size. Some have thought that when a queen is not laying, her abdomen consequently smaller than usual, she might get through a perforation smaller than when in full laying. But it is not the size of the abdomen that prevents her passage, it is the thorax. The abdomen is soft and yielding, and when at the largest it will easily flatten out to go through any perforation large enough to allow the passage of the thorax. The thorax is a sort of bony structure which is the same whether the queen is laying little or much.

2. I have no means of knowing, but the most common reason for the desertion in such cases is that the hive is in too warm a place, and too close. Leaving the cover open a trifle helps, also shading and sprinkling with water.

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It also helps to give a frame of brood from some other colony. If nothing but starters are present, the bees may easily desert if everything is not entirely to their liking.

3. Hard to say; there might be something in the disposition of the bees, in the state of the weather, or in your handling.

4. For ordinary cases the usual plan with a provisional introducing-cage is pretty reliable. Somewhat safer is the Abbott plan of caging the new queen in the hive for 2 days without disturbing the old queen, and at the end of the 2 days removing the old queen and allowing the bees to liberate the new queen by eating out the candy. If you want to be entirely safe, put 2 or more frames of sealed brood over an excluder on a strong colony, leave it till all the brood is sealed, then take this brood, *without any bees,* put it in an empty hive, put the queen in, close it up bee-tight, and set it where the brood will not chill. In 5 days it may be set on the stand where it is to remain and a small entrance be opened. Of course, the brood should be old enough so that bees will be hatching out when the queen is put in. These very young bees know no other mother, and will be entirely kind to the queen. One way to keep the brood warm during the 5 days' confinement is to set it over a strong colony with 2 sheets of wire-cloth to prevent communication between the 2 hives.

Breeding Up for Winter—Drones from Mismated Queen—Honey Deteriorating on Hive

1. I have 2 colonies that have had drone-laying queens for at least 6 weeks. Both queens were reared this year. I sent for 2 tested queens and introduced them to-day (Sept. 25), first removing the drone-layers. Both colonies are still strong in bees. By stimulative feeding will the queens breed up to be in shape for winter?

2. Are the drones from a mismated Italian queen still pure Italian, or are they hybrids?

3. A claims that by taking the combs off a hive immediately after they are sealed he can extract more and better honey out of the combs than he can by leaving them on a few weeks longer. B claims that honey does not deteriorate nor grow less in bulk or weight after it is sealed when left on the hive a few weeks longer, or until the end of the honey-flow. ONTARIO.

ANSWERS.—1. Maybe, and maybe not. Something depends upon the length of time since any worker-eggs were laid in the hive. You say drone-laying queens have been present "for at least six weeks." Of course it may have been much longer than that, and all the workers present may be getting pretty old to go into winter quarters. It is also difficult, even with feeding, to get queens to lay at this time of year as they would in the early part of the season. Even so, as the colony is still strong in bees, if they are not too old, the wintering may be successful.

2. It is generally considered that the drone progeny is not affected by the mating of the queen, although some maintain that the blood of the queen may be so affected as to affect the character of the drone progeny but slightly in the direction of the drone which the queen met.

3. Better compromise, and say that the honey will improve in quality by being left longer on the hive, part of the improvement being that the honey becomes thicker, and thus less in weight. Some of the best bee-keepers leave the honey on till the close of the season, believing that the little loss in weight will be more than overbalanced by the gain in quality. Some bee-keepers have done themselves lasting harm by throwing on the market honey not fully ripened.

Kind of Hive, Frames, Honey, Bees, Etc.

1. What kind of a bee-hive would you advise me to use in Norther Minnesota, 8 or 10-frame dovetailed?

2. Are Hoffman self-spacing brood-frames all right for extracted honey?

3. What kind of cover and bottom would you advise me to use? Is the double air-spaced cover all right for the North?

4. What kind of honey would you work for, comb or extracted?

5. Which is the cheaper to produce?

6. Is it necessary to wire frames for extracted honey?

7. What race of bees is best for all-around purposes?

8. What bee-book do you think best for a beginner?

9. How do you increase bees artificially? MINNESOTA.

ANSWERS.—1. Whether an 8-frame or a 10-frame hive is best depends upon circumstances. If you work for extracted honey, take the 10-frame. If you work for comb-honey, the 8-frame may be best. But its small size makes toward great danger of loss in wintering unless it have closer attention than would be given by those who do not make bee-keeping a good deal of a specialty. So it will be the safe thing for you to adopt the 10-frame hive for either comb or extracted honey, unless you expect to give the business very close attention.

2. It is used by many for that purpose, although some object that the shoulders of the end-bars are in the way of the uncapping knife.

3. A double cover with an air-space between the 2 parts is all right for North or South, summer or winter. In winter it is warm, and in summer the dead-air space helps to ward off the heat of the sun. For a bottom-board it is getting more and more to be the thing to have a deep space under the bottom-bars in winter. But if there be a deep space under the frames in summer the bees will build combs down under the bottom-bars. To meet this a reversible bottom-board is much used, one side allowing ¼-inch or less in summer, the other side allowing ¾-inch or more of space in winter. Although the reversible bottom-board is my own invention, I no longer use it, preferring a deep space both summer and winter. My bottom-boards are 2 inches in depth, and in summer I fill the space partly with a sort of open-work rack, which prevents the bees from building down, while at the same time allowing them more air.

4. If it were so that comb honey is the best to work for under all circumstances, then all bee-keepers would be producing comb honey, and the same might be said of extracted. The fact that some produce one kind and some the other shows that comb is best for some and extracted for others. I don't know which would be best for you. Possibly you can find out by trying both on a small scale.

5. The outlay for comb is much more than for extracted; but of course comb brings the higher price of the two.

6. It may not be absolutely necessary, but while combs are still new, if you attempt to use them for extracting without having in them wires or some other sort of support, you are likely to break enough combs to pay a big price for wiring.

7. Italians are generally considered best in this country.

8. You cannot go amiss if you have either or all of "A B C of Bee Culture," "Bee-Keepers' Guide," or "Langstroth on the Honey-Bee." If you want still another, you might get "Advanced Bee-Culture," or "Forty Years Among the Bees."

9. Yes, but it's a long story, and there are many ways. After you have got your book and studied up the subject in that, if there are any special questions you have on the subject they will be gladly answered in this department. You will find several pages devoted to the subject in "Forty Years Among the Bees."

Fair Honey Crop.

We have a fair honey crop in this district. The Ideal Hive Tool is light and effective.
JOHN S. SEMMENS.
Prowers, Colo., Aug. 30.

No Honey or Half a Crop.

I got no honey from our California apiaries this year, and about half a crop from the apiaries here in Utah. THOS. CHANTRY.
Ferron, Utah, Aug. 30.

About Half a Honey-Yield.

I have had only about half a yield of honey so far this season. But there is a fine prospect for a fall honey-yield from asters and golden-rod. W. S. FEEBACK.
Carlisle, Ky., Sept. 2.

May be a Fair Fall Flow.

Bees are still bringing in some alfalfa honey. If the weather favors us we may have quite a fair flow from the last of heartsease and alfalfa bloom. G. BOHRER, M. D.
Lyons, Kans., Sept. 2.

Gasoline for Foul-Broody Combs.

Take some combs where the bees have foul brood; uncap them and soak them in gasoline;

American Bee Journal

put them in the extractor; throw the gasoline out, and put the gasoline back into the can for future use. I use the combs again after this treatment. I find them perfectly safe to use. I would like every person to try this that has foul brood in the apiary.

W. H. H. STEWART.

Emerson, Ill., Aug. 28.

Poor Season for Bees.

This has been a very poor season for the bees in this part of the country. The fore part of the season was cold and wet so that they have had a very poor chance to do anything. JOSIAH SWINEHART.

West Salem, Ohio, Sept. 10.

Good Fall Honey-Flow.

The summer honey crop here was only a third of a croup, but we are now having a wonderfully good fall flow. I shall get some surplus from golden-rod and asters for the first time for several years. ALLEN LATHAM.

Norwich, Conn., Sept. 20.

Very Little Honey.

I have had 2 swarms from 70 colonies, and very little honey this year. The bees are doing very well now. We live in hopes that they will be better next year.

Palmyra, Mo., Sept. 14. JOSEPH H. BAKER.

Backward Season—No Honey.

This has been a very backward season, and now it is very cool—60 to 65 degrees above zero. The bees ought to be putting in their best licks on Spanish-needle bloom, but there is no honey to speak of so far.

Milo, Mo., Sept. 11. CHAS. M. DARROW.

Poor Honey Season.

This has been a very poor honey season with me. One out-yard of 10 colonies produced 500 pounds of extracted honey, and the other out-yard of 30 colonies, only 280 pounds of extracted honey. The home-yard of 20 colonies will have no surplus honey. L. E. ALTWEIN.

St. Joseph, Mo., Sept. 10.

Poor Prospects for Fall Flow.

We are having very dry weather here, and poor prospects for a fall honey-flow, but most of the bees have plenty of good stores for winter, also a good reserve in the honey-house for feeding in case of need. GRANT ANDERSON.

Sabinal, Tex., Aug. 27.

Bee-Culture Discouraging.

Bee-culture here is very discouraging this year. I have 25 colonies and will not get one pound of surplus honey. The bees are hardly making a living, as there is too much cold and rainty weather in the Ohio Valley.

HENRY LEWEOAG.

Wheeling, W. Va., Aug. 28.

Honey for Local Demand.

The early part of the season was poor for honey, but the last month or so the bees have done well, and there will be more than enough to supply the local demand. Comb honey sells for 15 to 20 cents per pound. This county, I believe, is the banner bee-county in Illinois.

Warsaw, Ill., Sept. 24. PAUL HEISE.

Fall Honey Crop Promised.

I have 98 colonies of bees. The honey-yield was light from clover. There promises to be considerable fall honey at this time, as the flow is about half over. We had a frost late in May, which killed all of the early bloom.

W. A. SWEARINGIN.

Epworth, Ky., Sept. 23.

Sumac—Wormwood—Psoralea.

I send you 3 different kinds of plants, as I would like to find out their names. I have attached a number to each.

Is No. 1 in any way a poisonous plant? The berries of this plant are the same as on sumac, but the leaves are different. It grows to the height of about 6 feet and in bushes.

Is not No. 2 a good honey-plant?

No. 3 grows to the height of about 2 feet, has a smell somewhat like peppermint, has small blue blossoms, and yields quite a little honey, and also grows in bushes.

Stratton, Colo., Aug. 4. PETER BOHM.

[Plant No. 1 is the fragrant sumac—*Rhus aromatica* and is not poisonous. Several of the sumacs are poisonous. The sumacs are generally good honey-plants.

No. 2 is the Kansas wormwood—*Artemesia Kansana* and is probably a good honey-plant in common with the wormwoods in general.

No. 3 is the black-dotted Psoralea—*Psoralea obtusiloba*—and as it belongs to the pea family, would naturally produce honey.—C. L. WALTON.]

Light Crop of Honey.

I have had a very light crop of honey this year; and never have I had so much swarming in the month of August in my 30 years' keeping bees. They are breeding strong, and consuming more honey than they are bringing in from the field. J. C. CREIGHTON.

Harrison, Ohio, Aug. 30.

Hard Year for Bees.

This has been a hard year on bees here. But by close attention I have done very well with them. I have taken as high as 100 pounds of surplus honey from some hives. Most of the bees in this country are kept by haphazard bee-keeprs, and hardly any of them have secured any surplus at all.

J. W. FERGUSON.

Pierce City, Mo., Sept. 2.

Very Poor Season.

This has been a very poor season here. It was either too cold or too dry, or both.

I started in the spring by purchasing a 3-frame nucleus, which has built up, by feeding, into a rousing-strong colony, but they have gathered no surplus at all this year. They just about made a living, and that is all. I intend to try natural swarming for a few years till I find out more about the business, before making artificial increase.

Curtis, Okla., Aug. 12. J. W. JACKSON.

Starting with Bees—Catnip.

Only one year ago last spring I put my attention to bee-culture, having been keeping bees in what might be called a pot-luck, haphazard way. To start with I had 14 old blacks and bought 4, making 18. I then bought 2 nuclei of the so-called Red-Clover Italians, and went to Italianizing my black bees by the introduction of Italian queens, changing 10 of them. In the fall I had increased to 39 colonies, with a surplus of 800 pounds of section honey. I then put 5 colonies in the cellar for wintering, leaving the balance on the summer stands with winter protection.

My winter loss was 2 in the cellar, and one colony out-doors, leaving me 36 to start with last spring—22 blacks and 14 Italians. Only 3 of the blacks gave me any surplus, and none of them swarmed. I have since, for the last 3 weeks, been giving them Italian queens, reducing the blacks to 13, which I will also requeen.

The 14 Italians gave me, up to this date, 5 natural swarms and 2100 pounds of section honey. One swarm that came off May 20 has stored 146 pounds of honey, and will likely fill another 28-section super. The 14 will average over 85 pounds apiece, and are just boiling over with bees. I am now taking off supers and dividing each of a part of them into 2. As to any difference in the different breeds of Italians, I much prefer the 3-band or all-yellow small bees to the long-tongued Red-Clover strain, for work and hustle. The small yellow ones are hustlers, and seemingly more hardy and prolific.

I have hit upon a shade or protection from the hot sun by planting a hop-root at the sun-side of each hive, which runs up on poles about a foot above the top of the hive, and as the shoots come out, I twine them in and soon have a perfect shade from early in July. And they are now full of hops, making a fine show.

Last summer, just after harvest, I set out 1000 catnip plants in rows, 3 feet apart, and have cultivated until too large to get through this season. On July 15 it began to bloom and has been in continual bloom ever since, and will be till frost takes it. There are new shoots coming out all the time, till now it has as high as 300 or 400 heads on one plant, and is just swarming with bees from as early as 5:30 in the morning till dark in the evening, which is not the case with any other honey-plant I know of, some yielding nectar only in the forenoon. And the plants will last at least two seasons if not three, and still longer. I have now set out for the next season over another thousand. Some one said that it would not pay to cultivate pasture for bees alone, but I think he is mistaken.

As to other honey-plants and nectar-yielding sources, we have basswood, some white clover, smartweed, and a large amount of sumac, which is a large part of our bee supply. There is plenty of golden-rod, but the bees seldom work on it. There will also be quite a crop of the fall asters—blue and white. Our buckwheat doesn't seem to yield much nectar. There were only about 3 or 4 forenoons of the bloom. W. S. WILLIAMS.

Martha, Pa., April 23.

Subscription Price Now 50c a Year

On July 1, 1907, when we decided to change the American Bee Journal from a 16-page weekly to a 32-page monthly publication, we reduced the price from $1.00 a year to 25 cents. We have since discovered that the 25-cent rate was entirely too low, in view of the kind of a bee-paper we are making every month. We do not wish to lower the standard now, and as labor, materials of all kinds including white paper, etc., have advanced in cost, we feel that the best thing we can do—in fact, the only thing to do—is to put the subscription price at 50 cents a year; in Chicago, 75 cents; in Canada, 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage, or 75 cents. These new rates began with September, 1907.

We are sure that our hosts of readers and friends will feel we are doing the right thing in this, as they certainly would not want us to continue at too low a subscription price. At 50 cents a year, this 32-page copy would cost the subscriber only about 4 cents—two 2-cent stamps — surely cheap enough, when its valuable contents are considered. Why, "Dr. Miller's Question-Box" alone is worth many times the subscription price, to say nothing of all the other valuable departments.

It is our intention to keep the old American Bee Journal at the head of the procession, where it has been for so many years. And to do this we will need the hearty co-operation of all our readers. There are yet thousands of bee-keepers who have never heard of the American Bee Journal. Many of them are your neighbors; can you not show them what they are losing by not having it every month?

On another page we offer many useful things as premiums for getting *new* subscriptions. We will be pleased to mail sample copies to any names and addresses of bee-keepers that may be sent to this office. If every present subscriber would send in just one new subscription during this month, by Nov. 1st our list would be doubled. Why not do at least that much to help along a good cause—your own cause? We are ready to do our part—will you, dear reader, not join with us in putting the monthly circulation of the old American Bee Journal up to where it ought to be?

Pennsylvania Convention

The 4th annual meeting of the Pennsylvania State Bee-Keepers' Association will be held at Harrisburg, Oct. 29, 1907—the day before the National—in the

American Bee Journal

Capitol building. The first session will convene at I p.m., and be devoted to business. In the evening there will be an informal meeting without any fixed program.

The National and the U. S. Hotels, and the Hershey House, have offered to accommodate those who attend the conventions for $1.50 per day. The Y. W. C. A. will entertain the ladies for 75 cents per day.

Owing to the unsettled conditions no reduction in railroad fare will be granted us this year.

A cordial invitation is extended to all who are interested in bees. There will be exhibits of honey, and all are invited to contribute to them.

FRANKLIN G. FOX, *Sec.-Treas.*
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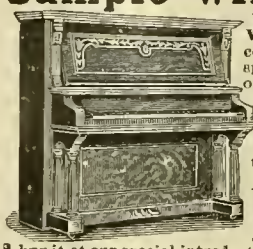

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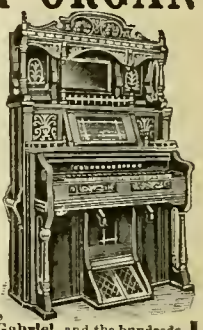

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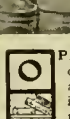

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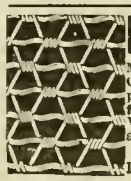

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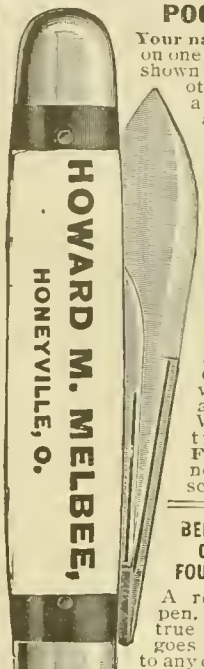

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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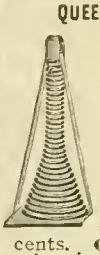

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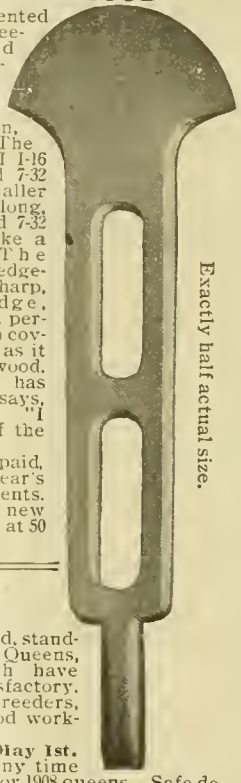

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CHICAGO, Sept 20.—Receipts are light of honey of all kinds. No. 1 to fancy white clover comb brings 17 to 18c; the off grades 1 to 3c less. Amber, if not too dark, 14 to 15c. Buckwheat about same price when it sells. Extracted white clover, 8 to 9c, according to quality and style of package; amber grades 6 to 7c. Beeswax easier at 30c.

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INDIANAPOLIS, Sept. 16.—Fancy white clover comb honey sells to the retail grocery trade in lots of 1 to 5 cases at 19 to 20c; No. 1 white clover comb 17 to 18c, actual net weight. White clover extracted in 5-gallon cans sells for 11 to 12c. The best demand here is for white clover honey, but a deluge of alfalfa honey is being sent to this market which sells for about 2c less than above quotations, and if the deluge continues a further break in prices may be expected. Beeswax offered freely, and sells at $35 per 100 pounds.

WALTER S. POUDER.

KANSAS CITY, Sept. 19.—The receipts of honey are more liberal, but the prices remain about the same. We quote: No. 1 white comb honey, 24-section cases, $3.50; amber, $3.25; No. 2, $3.00. Extracted, amber, 7½c; white, 8½c. Beeswax, 25 to 28c.

C. C. CLEMONS & CO.

TOLEDO, Sept. 21.—The market in comb honey has weakened some, as receipts are equal to demand. We quote: Fancy white comb, 17 to 18c; No. 1 white comb, 16 to 16½c. Extracted, in bbls., 7 to 7½c; amber, in bbls. and cans, 6 to 6½c. Beeswax, 26 to 28c. Owing to high prices honey is not moving rapidly.

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CINCINNATI, Sept. 21.—The market for honey here for white clover extracted is brisk, selling in 60-lb. cans at 10c; in barrels at 9c. No. white clover comb honey 17½ to 18c. Amber, extracted, 6 to 6 1-2c. Beeswax 32c.

C. H. W. WEBER.

PHILADELPHIA, Sept. 21.—The sales of honey have been quite active in this market during the past week. Bee-keepers seem to have a tendency to hold back their reports as well as their stock, and therefore those who are sending honey to market are getting good prices. Later on, when the early demand is supplied, those shipping honey will be disappointed in not receiving better returns, as during September and October honey is higher than at any other time of the year. We quote: Fancy comb honey in this market, wholesale, 17 to 18c; No. 1 white, 15 to 16c; amber, 14c. Extracted honey, water white, 7 1-2 to 8c; amber, 6 1-2c; dark, 6c. Beeswax, 30c.

We are producers of honey, and do not handle on commission.

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NEW YORK, Sept. 23.—Comb honey—the demand is good, especially so for fancy and No. 1 white. As the season has been very late, arrivals have been slow, but quite fair lots are now coming into market. We quote fancy white at 16 to 17c; No. 1 at 15c; No. 2 at 13 to 14c. No price established as yet on buckwheat, nor has any arrived. Extracted also in good demand, with prices gradually stiffening up. Receipts are mostly from California, near-by, and West Indies. We quote California white sage at 9c, light amber at 8c, amber at 7c; white clover at 8 to 9c, amber at 7 to 7 1-2c per pound. Beeswax plentiful and somewhat off in price, selling at from 29 to 30c for choice stock.

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CINCINNATI, Sept. 20.—Since our last quotation there is no material change in the honey market, with the exception that the demand is a little better. As yet prices have not reached that high point that many people believe they will. Received this week a car-load of white comb honey which we are selling at from 15 to 16c from the store. This was the first car out of Colorado, and naturally commanded attention, which brought many purchasers. Will have two or more cars to arrive which will more than satisfy the demand, and we look forward to lower prices. Extracted honey is moving as lively as can be expected at this season of the year. Quote white clover in barrels and cans at 7 to 9c, according to the quality; amber in barrels at 5¾ to 7c. Choice yellow beeswax, free from dirt, 30c, and 28c for the darker grades.

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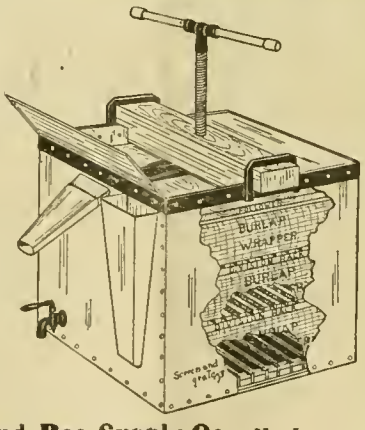

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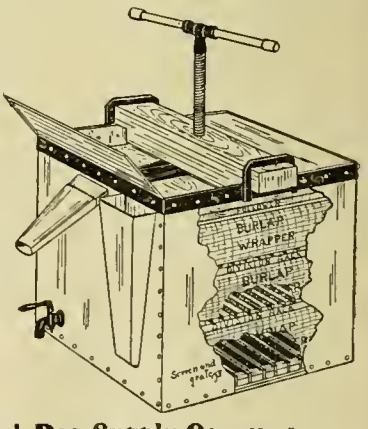

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American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

Does It Pay a Planing Mill Man to Make His Own Hives?
An unsolicited statement of the matter from an Illinois bee-keeper:

ELIAS BAMBERGER
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SASH, DOORS, BLINDS
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Freeport, Ill., June 11, 1907.

The A. I. Root Co.,
Medina, O.

Gentlemen:

I received five of your AE52S–10 hives yesterday and find that I cannot make my own hives and supplies as cheap as yours and use the same quality of lumber. You can see by the head of this letter that if anyone can make hives cheaper than your prices or any of the so–called "trust hive" manufacturers, I ought to be able to do it, but using the same quality of lumber I cannot.

Yours very truly,
(Signed) John H. Bamberger.

☞ The above is a representative letter from the many we have to the effect that our hives and other supplies can be purchased cheaper than a local mill can possibly make them. Our enormous output enables us to reduce the cost to the minimum without sacrificing quality.

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GEORGE W. YORK, Editor | CHICAGO, ILL., NOVEMBER, 1907 | Vol. XLVII—No. 31

Editorial Notes and Comments

The Harrisburg National Convention

It was held on Oct. 30 and 31 as per announcement. There were about 100 present, perhaps the smallest meeting in many years. This may be accounted for by reason of the discouraging honey season this year.

In the main the Harrisburg meeting was a very good one. Some excellent things were said and done, all of which will appear in the published report, which will probably be issued about December 1st.

There are now over 2500 members in the National Bee-Keepers' Association. There ought to be 25,000 at least. We wish that all of our readers were members. The annual dues are only $1.00, and *just one* of the papers read at the Harrisburg meeting is worth many dollars to any bee-keeper who wishes to make something out of his bees. In fact, one of the leading members present said it would have been worth $200 to him had he been able to hear such a paper when he began with bees. It pays to *know* the best there is to be known, if one would succeed in any business. And bee-keeping is no exception.

At the evening session on Wednesday, Oct. 30th, General Manager N. E. France was presented with a beautiful gold watch and chain, which had been purchased with money contributed by many members, in amounts of 10 cents to $5 each. It was a worthy tribute to a worthy and self-sacrificing man. As there was more than needed to pay for the watch and chain, a dozen silver teaspoons were bought and sent to Mrs. France, who so devotedly has stood back of Mr. France these many years, and thus has helped him do things for bee-keepers more successfully than probably he otherwise could have done. These presentations were made in most appropriate words, by Mr. Hutchinson, and so touched the heart of the General Manager that it was not until the following morning that he was able to express his gratitude audibly.

We hope that all of our readers who are not already members of the National will each send $1.00 at once, to N. E. France, Platteville, Wis., and thus be in line not only for a copy of the next annual report, but also for the other benefits to be derived from membership in the largest and best organization of bee-keepers in America.

Flouring Bees When Uniting

The British Bee Journal speaks very approvingly of dusting bees with flour when uniting late in the season. This plan has been before the public for some years, but never seems to have been practised much in this country, although perhaps no one has reported adversely as to its use. Sometimes things go by fashion—perhaps too much so.

Selecting the Best Queen

In keeping tally of the yield of different colonies so as to select best queens from which to breed, one trouble is that when by any means the queen of a colony is changed during the season it is hard to say what portion of the yield is to be credited to each queen. If the second queen comes in not more than a month before the close of the harvest, of course her workers have nothing to do with the season's storing. Close observation will perhaps show that in any case the second queen has less to do than might be supposed with the amount stored. Take a colony of best characters as storers, and another of the poorest, in a white clover region, and exchange queens before the beginning of the harvest, but after the colonies are brought up to full strength, and see if the result is not much the same as if no such exchange had been made.

There is a field here for exact observations by careful observers.

Is Foul Brood Honey Fit for Table?

In reply to this question, the British Bee Journal, page 357, says:

"No, it is not fit for human food unless boiled, to destroy all the germs."

It has generally been held (has it not?) that no harm would result to the human family from eating honey stored by a foul-broody colony. Of course, one would not think honey thrown out of combs containing decayed larvæ would be fit for table use, but would it be any fitter for boiling? Is there any proof that germs of foul brood in honey otherwise unobjectionable is injurious to the human stomach? Possibly the generally accepted view on this subject needs revising. Can Mr. McEvoy tell us anything about it?

Some Misunderstandings About Italians

In the American Bee Journal for 1906, page 862, the question was raised, "What is a tested Italian queen?" To the statement there made, "Subscriber" took exception, in the Journal for 1907, page 138. The position of "Subscriber" was objected to by Mr. Doolittle, page 259; by Mr. Anderson, page 266; and by Dr. Miller, page 318.

In proof of his position, "Subscriber" has sent to this office specimens of his drones, and says he has thousands like them, and has queens whose workers have abdomens that are yellow to the tip. The drones are what would be easily called solid yellow, and one of the veterans to whom they were shown, said, "I think I never saw drones quite so yellow; and it must be a beautiful sight to see a large number of them in flight, with workers to correspond."

The whole trouble lies in the fact that

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"Subscriber" is talking about one thing, and the other gentlemen about another; "Subscriber" referring to Italians brought to perfection in the matter of color, as in his own apiary, and the others to Italians as they are imported from Italy. Certainly there can be no question that Italians as first imported were entitled to be called pure Italians, if any Italians can be called "pure," and it can hardly be claimed that the standard has changed. As to whether bees so modified in appearance as are the all-over-goldens should also be called pure Italians, opinions may differ. Some would probably call them modified Italians, and their greatest admirers seem to put them in a separate class by calling them "goldens"—a term not applied to pure Italians as imported from their native land.

Superseding Queens

The question as to renewing queens is one upon which there is a wide difference of opinion. What may be best for one may not be best for another. One may think it best to take the matter in his own hands and each year replace his queens with young queens of the current year's rearing as early as such queens can be reared or bought. He may thus have a pretty strong guarantee against all swarming. Another may think it best to leave the matter of superseding entirely in the hands of the bees. He will tell you that his queens are generally superseded before they are too old for good service, and the few which are left till too old will cause him less loss than it would cost him to replace his queens regularly at a certain age.

For many—perhaps for the great majority—a combination of the two plans is best. Let close watch be kept as to what is being done by each colony; if very poor work is done, by any particular colony, replace the queen just as soon as convenient, whether the queen be old or young. Some queens less than a year old are poor, and a very poor queen may be superseded by the bees when only a few weeks old. But even if the bees promptly supersede a young queen that is poor, her royal progeny will be also.

Now is the time of year to figure up on the work of each colony. Those which, having had a good chance, have yielded less than the average, should be marked for renewal as early as profitable next season. This constant weeding out of poor queens is important, as well as breeding from the best. You may breed from the best with all the care you please, if you do not weed out poor queens you stand a chance of having the drones of these poor queens mate with your young queens.

Does the Bee Start the Flow of Nectar?

A member of the American Bee Journal family challenges the statement of Prof. Tanzer in the first full paragraph on page 688, and asks whether there is any proof for the statement that the first bee that visits a flower gets no nectar, but merely starts business for the rest.

Whether one knows exactly the truth about such things or not may make no difference in the number of pounds of honey secured in a season, yet the more fully we are informed as to all that goes on in matters pertaining to the realm of beedom, the more enjoyment we may have in the pursuit of our vocation. And surely it is better to have the dollars plus the enjoyment than it is to have merely all the dollars that can be had out of the business. Sometimes, too, it happens that matters that seem to have no connection whatever with the practical side of bee-keeping have yet a very important bearing; although that bearing may be very indirect.

Ignorance must be frankly admitted as to whether or no there is good ground for the statement in question. If any one before has said anything of the kind,it has certainly not come very prominently into public notice. Cheshire goes into such subjects more fully than most writers on bee-keeping matters, and he says nothing of the kind. Does any one of our bee-books give anything corroborative? If what Prof. Tanzer says are facts, they are most surely interesting facts, and is it not strange that others should not mention them?

It will doubtless occur to many that in the hot-house, in the middle of winter, an abundant secretion of nectar may be found on some flowers, and in this case no first visit of a bee could be effective.

But we are open to conviction, for many a truth has been brought to light that was not in accord with previously accepted views. Our columns are open for any light that may be given, and perhaps Prof. Tanzer himself will be willing to contribute thereto.

Value of Honey as Food

The following note is brought out by the article on page 689:

"Mr. Editor:—I wish you would look carefully over what Dr. Eaton says, page 691, and then give us the benefit of an editorial opinion as to which is right, Prof. Tanzer or Dr. Eaton."

That is asking a good deal, is it not, for one of the laity to decide in a case where two men with handles to their names differ? But a cat may look at a king, and there may be no harm in saying just how the case looks to an outsider.

Dr. Eaton says: "I am inclined to doubt scientific basis for the statement that certain foods build up the higher faculties." Prof. Tanzer speaks of "the assimilation of foods which reaches out to the building up of the higher faculties." If by that Prof. Tanzer means that so many grams of a certain food will produce so many impulses of love to the neighbor, and that certain grams of another food will produce so many tenths of a grouch, then it may be left to the propounder of such a theory to defend it. But is that necessarily the interpretation of Prof. Tanzer's words? We all know that a man suffering from a fit of indigestion is more likely to give way to a fit of ill temper than one whose digestion is perfect, and so in this case there is relation between the assimilation of food and the higher faculties. May not Prof. Tanzer have had in mind some such thought as this? And is it not true that with perfect digestion and assimilation the faculties of the mind are more likely to be in good trim than when something goes wrong in the digestive tract?

Dr. Eaton also doubts scientific basis for the statement that "it is advisable to eschew eggs and milk because the flesh of the animals which furnish them is used for food." In reading what Prof. Tanzer says in the last columns on page 689, it did not occur to the present writer that eating the flesh of beef and poultry was given as a reason why eggs and milk should be eschewed. Indeed, it did not at all occur that Prof. Tanzer meant to advise against eating eggs and milk. He would hardly advise such an astounding thing as cutting milk out of the dietary of a babe at its mother's breast. What probably will be understood by most readers as Prof. Tanzer's meaning is something like this: "We do not eat the flesh of the insect that produces the honey, neither should we eat the flesh of the cow that produces the milk, nor of the hen that produces the egg."

As to the constituent parts of honey, there is no small difference in different analyses, owing to differences in different samples of honey, and perhaps for other reasons as well. That is a matter for analysts to determine. Prof. Tanzer has plenty of company in believing that honey contains formic acid; indeed, that is the general belief; but the proof of its presence may not be sufficient to satisfy Dr. Eaton's mind.

As to Dr. Eaton's last paragraph, there is probably no difference of opinion between the two writers. A stick of firewood may contain many calories of heat, but a stick of firewood is hardly a proper article of food.

Books for Bee-Keepers

Every bee-keeper should have a bee-book besides a bee-paper. On another page will be found all the best books offered—either at a price, postpaid, or as a premium. If you can not earn them as premiums for getting new subscriptions, it will pay you well to purchase one or more of them. You will find them of great value. There are so many things in the books that are needful to know, and that of course could not be told over and over again in the bee-papers. If a bee-keeper can afford only one, it would better be the book rather than the paper. But now that the American Bee Journal is only 50 cents a year, of course, no bee-keeper, however limited his apiary may be, can afford to be without its monthly visits.

Color of Raspberry Honey

E. D. Townsend says in the Bee-Keepers' Review that the view entertained by some that raspberry honey is amber is incorrect, at least as applies to the raspberry honey obtained on the sandy loam of Northern Michigan. It is so light in color that it may easily be mistaken for white-clover honey.

American Bee Journal

Editor E. R. Root's Operation

In the issue of Gleanings in Bee Culture for October 15th, appeared the following concerning the ill-health of Editor E. R. Root:

"The editor has been temporarily away from the scene of action. On returning from a trip to the Jamestown Exposition he was taken with a severe attack of what proved to be appendicitis. Since he had suffered from many lighter attacks before, an operation was considered necessary. He is now almost well again, however, and has returned to his work with renewed vigor. A part of the editorial work for this issue was dictated from his bed in the hospital."

We are glad to know that Mr. Root is getting along all right after his operation. We can fully sympathize with any one who has to be detained from his work through sickness.

Rio Grande Bee-Keeping

This office is in receipt of Bulletin No. 1, Riagrandenser Bienenzucht—a pamphlet of 51 pages, written by Emil Schenk, and gratuitously published in the German language by the government of Rio do Sul, a State in southern Brazil. Mr. Schenk has done much for bee-keeping in Brazil, and on his return from a visit to Germany last year took back to South America some Italian bees to be cultivated there. The pamphlet gives up-to-date bee-keeping as practised in Germany, largely, modified to some extent by Mr. Schenk's own practise.

Why Honey should be High in Price

Prof. A. J. Cook, of California, writing us, Oct. 12, 1907, had this to say concerning the prospect for increased prices for honey:

EDITOR YORK:—There are two reasons for expecting a high price for honey this season:

First, because of the cold, backward season last summer, there was a small product, and this was true so far as I can learn the country over.

For a like reason, there was a very meager fruit crop. People will have some sort of a relish and need it, as food that is tasteless fails to do us the good that we need. There will be so little fruit, and that little will be held at such a high price, that we may expect other relishes will be in great demand.

Thus we may expect a much greater call for honey than is usual, and it is not presuming to expect a very high price for our product. A. J. COOK.

Referring to the present season in California, Prof. Cook wrote thus on Sept. 28:

EDITOR YORK:—We find that the present season in California has been, on the whole, a disappointment. Like the preceding one, there was plenty of rain, and the prospects for a great honey-year were exceptionally good. Yet, like the year before, the spring was very cool and damp, which, though it gave us a very comfortable season, yet the plants failed to secrete nectar, and the bees refused to fly forth to gather. Yet in many localities a third or half a crop was secured, and the honey is very fine in quality.

The requisites for a good honey-year are abundant rains, much warmth and sunshine, and a dearth of raw, chilling winds during the season of honey-flow.

A. J. COOK.

The Chicago-Northwestern Convention

This is to be held in Chicago on Wednesday and Thursday, Dec. 4 and 5, 1907. There are those who say they prefer this meeting to the National. At any rate the Chicago-Northwestern is well worth attending, if we do say it "who hadn't ought to," as Samantha Allen often says in her books.

We hope there may be a very large gathering this year. It comes during the annual Live Stock Exposition held here in Chicago, which always insures low railroad fares. It is expected that a number of the leading bee-keepers of America will be present to help make this meeting of the Chicago-Northwestern "a hummer." Better come along, and not only get something valuable, but if possible contribute to the success of the meeting.

Secretary Moore sends us this notice for publication:

PARK RIDGE, ILL., NOV. 1, 1907.

The regular annual convention of the Chicago-Northwestern Bee-keepers' Association will be held at the Briggs House, corner of Randolph St. and Fifth Ave., Chicago, Ill., on Wednesday and Thursday, Dec. 4 and 5, 1907. The first session will be held at 10 a. m., on Dec. 4.

The Question-Box will occupy "the center of the stage," as usual.

Dr. C. C. Miller, Dr. G. Bohrer, of Kansas, N. E. France, R. L. Taylor, E. T. Abbott, W. M. Whitney, C. P. Dadant, and W. Z. Hutchinson are expected to be present.

There will no doubt be a good attendance, as many come to Chicago to attend the National Fat Stock Show, held at the same time (Nov. 30 to Dec. 7). Cheap rates at the usual schedules are the rule at that time on all railroads. See newspapers for details.

Everybody come and bring "Mrs." and "Miss" with you.

HERMAN F. MOORE, Sec.

Bees Increase Church Fund

The Philadelphia Press contained the following recently:

BURLINGTON, N. J., Oct. 5.—Not only did bees, which have built an immense hive in the steeple of the First Baptist Church, set an example of thrift which members will emulate in building a new house of worship, but the busy little workers have stored up a ton or more of fine honey, it is said, the sale of which will contribute some toward the proposed edifice. In fact, the trustees are counting upon the "bee fund" in the raising of $40,000 needed for the building of a new church, $15,000 of which has already been subscribed.

Dr. Miller's Report for 1907

The spring of 1907 opened up one of the most discouraging I ever knew. Had it not been for a good lot of extra combs of sealed honey, my bees would have been in very poor condition; but having abundance of stores, the colonies built up and continued populous in spite of adverse weather. When clover opened in bloom I expected to see an agreeable change, but although there was plenty of bloom the bees did not tumble over each other in bringing in their loads of honey, and I can not say for sure that they got to amount to anything from clover throughout the entire season. I should have said, however, that dandelions seemed to do their full duty, which at least helped to get the colonies in fine conditon.

June 28 the bees began to get more than enough for their daily needs, and honey shook out of the brood-combs. More or less surplus was stored up to July 21, when the bees took a recess, beginning again August 10, and continuing until Sept. 20, some of the time storing slowly, and at other times rapidly. I think the most of the surplus was from heartsease, but I don't know. One thing that makes me uncertain is that I have always supposed that heartsease honey was a pronounced amber, but nearly all of mine was very light, indeed whiter than white clover. The flavor was good.

The sum total for the season was 7920 sections from 120 colonies, or 66 sections per colony. That would make something more than 60 pounds to the colony.

All things considered, I don't feel like complaining. C. C. MILLER.

The Illinois State Convention

Secretary Jas. A. Stone has sent in the following notice of the next annual meeting of the Illinois State Bee-Keepers:

Rt. 4, SPRINGFIELD, ILL., Oct. 29, 1907.

The seventeenth annual meeting of the Illinois State Bee-Keepers' Association will be held at the State House,

American Bee Journal

on Tuesday and Wednesday, Nov. 19 and 20, 1907.

We expect to have one of our best meetings, as we have the assurance of the presence of Dr. C. C. Miller, of Marengo; C. P. Dadant, of Hamilton; Geo. W. York, Editor of the American Bee Journal; and N. A. Kluck, of the Northern Illinois and Southern Wisconsin Bee-Keepers' Association. If no others than those named were present there surely would be a good meeting. But with the largest association (aside from the National) that there is in the United States, we expect a good meeting, which everyone will enjoy in a measure equal to the efforts each puts forth. Railroad fare now being 2 cents per mile, is equivalent to one and one-third fare last year. So that railroad rates are settled.

As to entertainment, good beds in private families can be had at 50 cents, and meals can be gotten at restaurants from 15 cents up. No one can have a cheaper or better outing than this, and also have the opportunity of shaking the hands of brother and sister bee-keepers. If you refuse to have a good time, don't come! JAS. A. STONE, Sec.

Prof. H. A. Surface for Director

At the recent meeting of the Pennsylvania State Bee-Keepers' Association, Prof. H. A. Surface, ex-president of that excellent organization, was unanimously endorsed as a candidate for director of the National Association. The election will be held this month. Pennsylvania is one of the States having a very large membership, so they feel that they are entitled to one of the twelve directors, at least.

Prof. Surface is an exceedingly valuable man to bee-keeping, and is doing all he can to develop it in his own State. He is a born investigator in the realm of Nature, and is bound to make himself felt more and more along the line of the honey-bee.

More Bee-and-Honey Nonsense

Mr. C. G. Chevalier, of Maryland, frequently sends us items of interest, and among several sent the past month is the following which is about as wild as anything we ever read on bees and honey:

BEE-HASH HONEY.

"What is heralded as the greatest discovery of modern times has just been made here by Prof. Granville Hitchings Smith, of the Lausanne Polytechnic Institute, viz., the manufacture of pure honey on a large scale by improving on nature's methods, says the Lausanne correspondent of the Chicago Inter Ocean.

"It is well known that Swiss honey is the most delicious in the world for the reason that the 'flora' of its mountains is the most varied and extensive of any on earth. The reader will please remember that the 'little honey bee' never gathers honey from flowers or anything else, but simply a sweet substance which it takes into its stomach, and which by the time it reaches its hive becomes by some unknown chemical process what is called honey, and is there ejected by the bee from its stomach into the comb.

"The great discovery made by the Professor is in producing it in immense quantities by mechanical means and at a low price, probably not more than two cents a pound. Factories will be established at once on the same plan as butter and cheese plants, as the process is being patented in all countries and is simplicity itself.

"Clover, wild flowers, cornstalks, beets, watermelons, dates, etc.—in fact, any substance containing saccharine matter—can be brought to the factories and crushed between porcelain-covered rollers, the juice running into tanks, where it is mixed with a small proportion of the bee ferment, or 'sachrogen,' as the discoverer calls it.

"This queer substance is not only in the bee's stomach, but permeates its entire internal economy; therefore it has been found best in practice to cut up the bees in a kind of sausage chopper (they first having been chloroformed to prevent useless pain) and then the hash-like material is pressed through a colander and a tablespoonful of the liquid is mixed with five gallons of the saccharine juice, which after a few minutes is transformed into the purest and most delicious honey imaginable."

Child and "Seated" Swarm

Mrs. A. L. Amos, of Comstock, Nebr., sent us the picture shown herewith, representing one of her children with a swarm of bees. The child is eating

bread, but seems not to be at all uneasy although there are so many bees so near her. The swarm is on the seat of a riding plow. It was fortunate that Mrs. Amos had her camera in working order so that she could get such an interesting picture.

World's Pure Food Show

Owing to the great success met by the management of the World's Pure Food show to be held in Chicago at the Coliseum this month, the time for the exposition has been extended. It will run from Nov. 16 to 23, instead of Nov. 19 to 25, as originally announced.

Managing director Thos. T. Hoyne announces that the contracts for building the booths and scenic work alone will involve an outlay of over $20,000.

The Exposition is the most elaborate that has ever been planned for the Coliseum, and the prominade of all nations in itself will eclipse the Streets of Paris Show held in the Coliseum last winter. Over 3,000 incandescent lights will be used in the decoration scheme. This number does not include nearly a thousand which will stud a miniature Eiffel tower which will rise from four booths in the center of the building to the roof.

The color scheme for the booths will be uniform and worked out in gold and white. At each end of the building there will be an enormous sunburst and a huge wind-mill in action.

The management of the Exposition expects to handle from 150,000 to 200,000 spectators during the 8 days of the Exposition, and has provided sufficient aisle-space for this purpose.

During the Exposition lectures on cooking and other matters of utmost importance to the household, including demonstrations of simple tests of the purity of foods, will be given in the Coliseum Annex.

The National Bee-Keepers' Association will have an exhibit of honey that should help to increase the demand for this best-of-all sweets. Mr. France will be in charge, which fact will insure an attractive and satisfactory exhibit.

Bees Race Pigeons

It is not generally known that bees are swifter in flight than pigeons—that is, for short distances. Some years ago a pigeon fancier of Hamme, Westphalia, laid a wager that a dozen bees liberated three miles from their hives would reach home in less time than a dozen pigeons. The competitors were given wing at Rybern, a village nearly a league from Hamme, and the first bee reached the hive a quarter of a minute in advance of the first pigeon. The bees were also slightly handicapped, having been rolled in flour before starting for the purpose of identification.—Reader Magazine.

Worcester County Fair

The second annual Fair of the Worcester County Bee-Keepers' Association was held in Horticultural Hall, Worcester, Mass., on Sept. 13 and 14, 1907. The displays of honey-bees and bee-implements was well worth seeing. The purpose of the exhibition was threefold: To bring together for display and competition the products of bee-keepers; to bring together for display and competition the products of manufacturers and tradesmen; and to educate the public.

The judges were J. E. Crane, of Middlebury, Vt; H. S. Ferry, of Mt. Vernon, N. Y. These are the awards: Best 5 pounds comb honey, first prize, F. H. Drake; second, Miss Edith M. Rolston, a Worcester schoolteacher; third, C. S. Graham. Best crate comb honey, packed for market, T. J. Lobdell; best 2 frames comb honey for extracting, F. H. Drake; best display comb honey in general, first, T. J. Lobdell; second, F. H. Drake; third, J. S. Whittemore.

Best 5 pounds extracted honey in

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glass—First, F. H. Drake; second, J. S. Whittemore; third, C. S. Graham.

Most attractive display extracted honey—First, J. S. Whittemore; second, F. H. Drake; third, C. S. Graham.

Photograph of swarm of bees—J. D. Richardson.

Photograph of New England apiary—First, C. H. Lothrop; second, F. H. Drake.

Beeswax—First, Mrs. E. W. Spaulding; second, C. S. Graham.

Best Italian bees—First, C. S. Blake; second, T. J. Lobdell.

Best Carniolans—C. S. Blake.

Scientific observation hive—A. C. Miller.

Best display of bees—First, C. S. Blake; second, T. J. Lobdell.

Queen-bees—W. W. Cary & Son.

Queen-rearing outfit—W. W. Cary & Son.

General display—W. W. Cary & Son.

On Friday afternoon, Prof. Brooks, of the Amherst Agricultural College, spoke upon the relation of the locality to bee-keeping, and also the relation of fertilizers to the products of the land, wherein it affects bee-keeping. He stated that a yearly application of basic slag meal and potash salts is the best fertilizer for the growing of white clover. Phosphoric acid and potash is also a good fertilizer for white clover. Alfalfa, which is a good honey-plant, will grow well where there is much lime in the soil.

Prof. Brooks was followed by Mr. J. E. Crane, of Vermont, the Institute speaker furnished by the Massachusetts State Board of Agriculture. He spoke in rather a general way in regard to the use of insects, and especially bees, in the fertilizing of flowers. He then began to give advice to bee-keepers, viz.: Do not invent a new bee-hive. Start with a few colonies and increase gradually. Don't take off the honey too early. If you intend to go into bee-keeping for the money in it, just advertise.

In the evening Mr. A. C. Miller spoke on the relation of the worker-bees to the queen, and also some problems in wintering.

Mr. H. H. Cary was the next speaker. He told of the different methods of queen-rearing, and then went into the care of the swarm in the spring. He advised requeening every fall, if possible, at least requeening every 2 years. The reason he advocated requeening in the fall rather than in the spring was, that in the fall there would be no loss of time or disturbance; and he had found from experience that the method of requeening in the fall brought the colonies out better in the spring than the other way.

On Saturday, at 12:30 p. m., a banquet was held which was attended by about 60 people. After the banquet the speaking was resumed. Hon. J. Lewis Ellsworth, Secretary of the State Board of Agriculture, spoke to the meeting, bringing the greetings of the State. The next speaker was Mr. Crane, who spoke upon the honey-yield in Vermont. This year he had harvested 20 tons of honey from 800 colonies of bees.

Mr. H. L. Jeffrey of Connecticut, was the next speaker. He outlined a plan used by him for many years by which he was able to keep his stock of bees of the same strain, and same general qualities. It is hoped that his method will appear in these pages in the near future.

The last speaker of the day was Mr. Latham of Connecticut, who pleaded for the old-fashioned box-hive for the use of the farmer.

The Fair closed Saturday evening, and was so successful in the minds of those in charge that it is expected that the Association will continue to hold these fairs annually.

A. H. Estabrook.

SALLIE WARD YORK

Back of every man who has done anything worth while for the public will generally be found a true woman, who, as his helpmeet, has stood by him through thick and thin, helping him over the hard places, and always cheering him on to better effort. She may not be known to the public, but quietly and unostentatiously her influence is constantly exerted, and many a man has been glad to acknowledge that for his success in life he was chiefly indebted to his wife.

Such a woman was Mrs. George W. York, who was carried to her last resting-place, October 16. It was my privilege to know her better than most of the members of the American Bee Journal family, and so it is but right that I should tell them a little about the one who for so many years was so strong a factor in making the Journal what it has been, and is.

As already intimated, her influence upon the paper was indirect, but not entirely so. On mailing days she came to the office for many a year and put her hand directly to the work so that the mailing would be on time; and thus more than once it was through her help that the American Bee Journal was able to maintain its right to be called "The Old Reliable."

Perhaps the most prominent characteristic in Mrs. York's personality was her unflinching devotion to her ideals of what she believed to be right and true, and her outspoken advocacy of them, even to the point of brusqueness, whatever consequences might follow. The minister who so feelingly spoke the last words over the body which lay in the church, embowered in beautiful flowers from so many sources, said, "We come to do honor to the memory of a fearless spirit." The words were well spoken. Hers was a spirit of fearlessness wherever there was any question of right to be done, or wrong to be overcome.

The Methodist church of Ravenswood (Chicago) is a heavy loser by her departure, for her activities were many. Especially may be mentioned her work as an uncompromising foe of the liquor-traffic, her work for the Wesley Hospital in Chicago, and the Methodist Deaconess Orphanage at Lake Bluff, Ill.

For a full year she was confined to a sick-room, through all the weary months of pain and suffering making a brave fight against the enemy—valvular heart disease—always a losing battle, but always a cheerful one, and most of us thus shut up would have felt excused from the activities which had been so much at heart before, but not she.

Our hearts go out in sympathy to him who will nightly return from his toil to that home so lovely—and yet oh, so lonely—because she who was its light and life has gone to return no more. May the God of all comfort, support and sustain him in his sore bereavement.

Mrs. York was a good woman; those who knew her best loved her best; and I am glad to be permitted to lay my little leaf of laurel on the brow of one who was worthy.

C. C. Miller.

Marengo, Ill.

The following sketch is taken from the Ravenswood Citizen—a newspaper published in the suburb where Mrs. York lived:

The death of Mrs. Sallie Ward York, wife of Mr. George W. York, occurred at the home, 2611 N. Ashland Ave., Monday, October 14, at 6:45 p. m. The funeral services were held at the Ravenswood Methodist Church, Wednesday afternoon, under the direction of Mrs. York's pastor, Rev. R. J. Wyckoff, assisted by Revs. Dan B. Brummitt and S. J. Herben, respectively assistant editor and editor of the Epworth Herald. Dr. Brummitt preached the funeral sermon in compliance with the request of the decedent. A quartet composed of Mr. Ernest O. Todd, Mrs. E. C. Carlson, Miss Frances Johnson, and Dr. H. C. Peisch, furnished the music for the occasion. The numerous floral pieces and largely attended services partly evidenced the high esteem in which Mrs. York was held. Every department of the church was represented in the floral offerings. A large clock with bands fixed at the hour of death (6:45) was the offering of the Official Board. Rose Hill was the place of interment.

The decedent was born near Harvard, Ill., and in 1878 moved to Wilmette, with her parents. On September 22, 1886, she was married to George W. York. Mr. and Mrs. York moved to the West Side of Chicago shortly after their marriage, and were both active workers in the Park Avenue M. E. Church, where Mrs. York had been the soprano soloist. A change of residence was then made and the Western Avenue Church became their church home, and here Mrs. York gave liberally of her splendid musical ability for the benefit of others. She had a full, rich soprano voice which had been trained to the nicest perfec-

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tion under the tutelage of the best masters of music in Chicago.

In 1893, Mr. and Mrs. York moved to Ravenswood, and it is here that the loss of Mrs. York is most deeply mourned. No hand was more ready in giving, no voice more earnest in pleading for the poor and unfortunate, and no feet have been more willing to run upon errands of mercy and help. Her life typified the very highest ideals of Christian living. During a year of terrible suffering, from valvular heart disease, no murmur of complaint escaped her lips, and in the last moments of flickering life the beautiful transforming power of a mighty faith made her death a glorious triumph.

Mrs. York was an officer of several societies at the time she was taken sick, and was especially interested in the Lake Bluff Orphanage, Deaconess' Home, and Wesley Hospital. During her last illness Mrs. York was the means of raising $118 for furnishing a room in the Harris Home for Nurses, used in connection with Wesley Hospital, and this room has recently been designated as the "Sallie York Memorial."

During the year of her sickness a record was kept of the number of calls made at the home, either to see Mrs. York or to enquire as to her condition, and the figures offer additional evidence of her popularity. The total was over 1,800. Gifts of flowers were brought 200 times.

Mrs. York, with all her activities, was an ideal housekeeper. She loved her home, and in the 21 years of married life not a ripple of disagreement disturbed the calm serenity of a joyful Christian companionship which has been a delight and blessing to every one who came within its influence.

SOME FLORAL TRIBUTES TO THE MEMORY OF MRS. YORK.

Conducted by EMMA M. WILSON, Marengo, Ill.

Feeding Bees for Winter—Pollen in Combs

DEAR MISS WILSON:—In quest of information I begin by craving your indulgence upon the ignorance of a novice in bee-keeping. A month ago I came into possession of my first colony of bees—Italians. The bees cover 5 or 6 frames of a 10-frame hive, and as wet weather has prevented them from working, they probably have not more than 2 frames of sealed and unsealed honey throughout the hive. The weather has now cleared, and if we have our usual fall weather they should be able to collect a considerable quantity of nectar from the goldenrod, as late as December, or the middle of that month.

1. But should they not be fed? And is a syrup of equal parts of granulated sugar and water the proper food?

2. The bees are gathering large quantities of pollen, which my text-book warns me should not be allowed to remain in the hive during the winter, but says naught as to how to extract it. How shall I proceed?

3. The bee-papers caution one against allowing honey-dew to remain in the hive, but I do not know what it is, how to recognize it, nor how to remove it, and here again I ask your assistance.

October 15, 1907. LOUISIANA.

From what you say it is possible that the bees may gather enough to winter on, but it is a safer guess that they will not. Too much is not likely to do any harm, and unless they have about 30 pounds of honey they ought to be fed. As you probably can not tell very well how much it takes in the frames to make 30 pounds, it might be safer to figure on 40.

It would be pretty late to feed syrup as thin as half-and-half as far north as here, but very likely it will be all right in your warmer latitude. Even if the bees do not get it properly evaporated and ripened, your bees have such frequent opportunities for flight that thin syrup will not do the harm it does where bees are confined to the hive for months at a time.

Are you sure you read straight about pollen not being allowed in the hive through the winter? If you did read anything of that kind you would better forget it. All bee-keepers have pollen in their hives over winter, probably, unless it be some one who is so unfortunate as to have bad honey in the hives, and even then he may not remove the pollen, but only the honey. Bees can winter without pollen, but they can not rear brood in the spring without it, and there is no way known of removing the pollen except removing entirely the combs containing it. Don't lose any sleep over pollen in your hives.

Some honey-dew seems to be all right, both for eating and as winter food for the bees, and some is bad for both uses, so bad indeed for wintering that it is little better than poison for that purpose, and in that case it should be extracted and the bees supplied with sugar syrup. Perhaps the wisest thing for you to do is to shut your eyes and sweetly trust that there is no such thing as honey-dew in your hives. Because it is not at all a common thing for bees to be troubled with it in winter, and because it is practically impossible to tell you how to recognize it. You might, however, inquire of some experienced bee-keeper in your vicinity, and find out whether he has had any trouble of the kind, and, if he has, perhaps he can furnish you a sample of the objectionable article.

Is it "Licking Good?"—A Curious Custom

A curious custom in many Slavonian regions is given in Praktischer Wegweiser, page 380. After a marriage the band of wedding guests proceeds to the house of the bride's parents. At the threshold the mother greets the pair, and gives to the bridegroom, as well as to the bride, a spoonful of honey in the open hand. The bridegroom must now from the hand of the bride, and she from the hand of her husband, lick the honey, and so show the most intimate communion and love.

Hybrids vs. Italians—Depending Upon Bees

DEAR MISS WILSON:—Thank you, as well as Mr. Bevins, for your suggestions in regard to getting the Italian bees to work in the extracting supers. The information may be of use to me at some future time if I ever keep Italians again

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—and I don't think I ever will.

I did put a queen-excluder under the empty super of drawn combs, as I did not care to mix brood and honey when extracting, as one man I saw do. However, by putting the excluder under the super with only one frame of brood, the brood would be all hatched and gone before extracting the honey.

Instead of cutting off my Italian queen's head, she committed suicide, or left, and saved me the trouble. The hybrid queen-cell that I gave the colony hatched out finely, and has given me as large and populous a colony as the Italians were, and the queen is from the best hybrid stock I have. They have not had time to gather any surplus on account of the short, scarce honey crop and lateness in getting started. I am in hopes to see a marked improvement in the colony next year.

The bees have had a hard time of it around these parts this season. The late, cold spring and then the short crop have not made honey cheap this year. I have a little over 100 pounds from 4 colonies of hybirds, as my total crop. About half is comb honey and half extracted. In proportion to colonies kept, I have a larger crop than any one of the large or small bee-keepers around here, so it has not been my fault in handling the bees wrong that I have a short crop.

At our recent West Michigan State Fair was a man who has exhibited for a number of years and has always had tons of beautiful comb honey, and a large exhibit. This year his exhibit was of necessity small, and he lost many swarms in the spring. He makes bee-keeping make him a living, and it is harder on such a person to have no crop, you might say, than for a person who keeps bees only as a pastime.

However, Michigan produces her proportion of excellent honey, and generally an average crop. I do not know but that she is one of the first States in the production of honey, mainly on account of her large and famous fruit crops.

I see some of our Western "brothers" have had a good honey crop this year. Good for them! We have good crops here, too, generally.

Personally, I'll take Michigan for mine. You can do many things here that it is impossible to do where it is always monotonous summer, and a storm is welcome to break the monotony. (Miss) ELSIE A. CUTTER.

Grand Rapids, Mich.

In deciding between Italians and hybrids, you must not leave out of the account the possibility of very bad temper working into hybrids. It almost seems as if bad temper and good gathering qualities go together: at least they do sometimes. Dr. Miller and I are not entirely agreed. I would take the best gatherers, no matter how cross; but he says if he had it to do over again he would stick to the pure-bloods, selecting from them always the best. Perhaps if pains were taken always to kill promptly the queen of any colony appearing unusually vicious, there might be secured a strain of hybrids without the ill temper. But not all Italians are entirely sweet-tempered.

Yes, it is harder on one who depends upon his bees for his bread and butter when a year of failure comes, than for one who has only a few colonies; but, on the other hand, when a good year comes the one with a lot of bees gets more out of it. Any one who embarks in bee-keeping as a business, should go into it with his eyes open, expecting bad years as well as good; and until he is so situated as to stand one or more years of failure, he should not think of making bee-keeping his sole business. I know at least one bee-keeper who, when a year of failure comes, takes the matter philosophically, appearing just as cheerful as if he had a crop, saying that a succession of successes and failures is the regular program to be expected, and why not accept one as well as the other?

Honey-Brine

Boil 20 minutes: 20 quarts of water, 9 pounds salt, 8 pounds of honey, and 10 ounces of saltpeter. Let it cool, flavor with an infusion of 7 ounces of spices, and pour over the meat to preserve it.

By this procedure the meat is preserved many days without losing its taste and nutritive qualities.—L. Apiculture Nouvelle.

Keeping Butter Under Honey

Butter can be kept all winter, according to a writer in L. Apiculture Nouvelle, page 231. The butter is packed in 1-pound or 2-pound glass jars, thoroughly worked, and everything scrupulously clean. Over the butter honey ready to granulate is poured to the depth of half an inch. Before the butter is put into the jar a small quality of sulphur is burned in the jar to kill any germs.

Illinois State Fair Exhibit

The following is the list of premiums awarded in the bee and honey department of the Illinois State Fair, held recently at Springfield, Mr. F. Grabbe, of Libertyville, Ill., being the judge:

Display of comb honey—1st, Geo. M. Rumler, of Mohawk, Ind., $20; 2d, Mr. and Mrs. A. Coppin, of Winona, Ill., $15; 3d, Chas. Becker, of Pleasant Plains, Ill., $10.

Collection of labeled cases of white honey from different flowers—1st, Mr. and Mrs. Coppin, $8; 2d, Mr. Becker, $5; 3d, Jas. A. Stone & Son, Route 4, Springfield, Ill., $3.

Collection of labeled cases of amber or dark honey—1st, Mr. Becker, $8; 2d, Mr. and Mrs. Coppin, $5; 3d, Jas. A. Stone & Son, $3.

Case of white clover comb honey—Mr. and Mrs. Coppin, $4; 2d, Mr. Becker, $3; 3d, Jas. A. Stone & Son, $2.

Case of sweet clover comb honey—1st, Mr. Rumler, $4; 2d, Mr. and Mrs. Coppin, $3; 3d, Mr. Becker, $2.

Case of basswood comb honey—1st, Mr. Rumler, $4; 2d, Mr. Becker, $3; 3d, Mr. and Mrs. Coppin, $2.

Case of amber comb honey—1st, Stone & Son, $4; 2d, Mr. and Mrs. Coppin, $3; 3d, Mr. Becker, $2.

Display of samples of extracted honey—1st, Mr. Becker, $5; 2d, Stone & Son, $3; 3d, Mr. and Mrs. Coppin, $2.

Display of extracted honey—1st, Stone & Son, $20; 2d, Mr. Becker, $15; 3d, Mr. and Mrs. Coppin, $10.

Honey extracting on the grounds—1st, Mr. and Mrs. Coppin, $5; 2d, Stone & Son, $3; 3d, Mr. Becker, $2.

Frame of comb honey for extracting—1st, Mr. Becker, $5; 2d, Mr. Rumler, $3; 3d, Stone & Son, $2.

Display of candied honey—1st, Stone & Son, $20; 2d, Mr. Becker, $15; 3d, Mr. and Mrs. Coppin, $10.

Display of beeswax—1st, Mr. Becker, $15; 2d, Stone & Son, $10; 3d, Mr. Rumler, $5.

Dark Italian bees—1st, Mr. and Mrs. Coppin, $4; 2d, Mr. Becker, $3; no other entry.

Golden Italian bees—1st, Mr. Becker, $4; 2d, Mr. and Mrs. Coppin, $3; 3d, Stone & Son, $2.

Carniolan bees—1st, Mr. Rumler, $4; 2d, Mr. and Mrs. Coppin, $3; 3d, Mr. Becker, $2.

Honey-vinegar—1st, Stone & Son, $4; 2d, Mr. Becker, $3; 3d, Mr. and Mrs. Coppin, $2.

Designs in honey—1st, Mr. and Mrs. Coppin, $15; 2d, Mr. Becker, $12; 3d, Stone & Son, $8.

Designs in beeswax—1st, Stone & Son, $20; 2d, Mr. Becker, $12; 3d, Mr. and Mrs. Coppin, $8.

The Prairie Farmer reports that the show of honey at the Fair this year was finer than that of any preceding year. And that is saying a great deal, for we have seen a number of the former annual exhibits made in the bee and honey department of the Illinois State Fair, and they have always been exceptionally good.

Odor of Bees as Means of Recognition Between Colonies

BY C. P. DADANT.

Do bees use the sense of smell in the recognition of one another? Has the odor of the queen anything to do with her acceptance or rejection when introduced by the apiarist? The affirmative has generally been adopted by bee-keepers throughout the world. But some exceptions have been taken to this, and it is for the purpose of considering the matter broadly that this article has been prepared.

That bees have very efficient and acute organs of smell is not to be doubted. Their flight to the honey harvest is almost entirely guided by this organ. In

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our gardens are many showy and fragrant blossoms which are never visited by bees, in spite of their looks and their sweet odor, because they lack the nectar-odor. When the fields are white with clover, the bees may remain idle because there is no nectar in the bloom. Evidently the odor of the nectar is missing. On the other hand, when nectar is to be had, they will readily discover the most humble flower hidden among the blades of grass, if only there is nectar in its corolla. Pollen attracts them in the same way, but with this substance there is less avidity, probably because it is found more readily. In a time of scarcity of harvest, when they gather propolis, they are often attracted by the smell of paint or varnish, which would not draw them at all, if there were honey in the fields.

Aside from smelling nectar in the blossoms at great distances, the bees have a wonderful ability for finding any substance which may be turned to account, especially when its smell is of a nature which renders it attractive. They will very promptly discover old combs that are left exposed, even if these combs are inside of a box or of a building. Only a couple years ago we had an instance of bees carrying away some honey contained in supers in our bee-house. The bees were first noticed against the west wall of the house, but no attention was paid to them, until it was found that the bee-house was full of them. They had traced the smell of the combs to the house, and it happened that a pile of the supers were close to that west wall. A very small crack in the boards behind a beam had been sufficient to afford them passage, but as the room was well lighted, and the small opening through which they entered was in a dark place, very few of the bees returned to the hive, but they flew to the window of the bee-house where they were found in large numbers. Instances have been given of their entering through a chimney, through the key-hole, to places where honey was stored and where their organs of smell detected it.

It is hardly worth while to insist on the matter, for everybody undoubtedly is ready to grant to them organs of smell equal to those of the best dogs.

Now, as to the odor of bees. The queen, the drones, the worker-bees, have each their particular odor. The odor of the drones was noticed by Swammerdam over 200 years ago. He called this peculiar odor "aura seminalis"—seminal effluvium. The queen has a sufficient odor to attract the drones when in flight, and Langstroth and Cheshire both thought that not only the sight of her, and the peculiar sound of her wings, but her odor as well, cause the drones to pursue her. The latter writer, in describing the numerous "smell hollows" in the antennæ of the drone, mentions "his quickness in discovering a mate, whose neighborhood is to him filled with irresistible odors."

The peculiar odor of the queen is, to my mind, that which makes her loss so very promptly discovered by the bees, when she is removed. This odor must be one of the ordinary smells of the hive, and its lack at once indicates that she is missing. Otherwise, how could a hive of several tens of thousands of the little insects so promptly recognize her disappearance? Most of our leading apiarists know how quickly the bees find out their loss, when she is removed. The writer has often noticed it within the hour, though it sometimes takes longer. Their hurried and restless search quickly indicates the accident, and persons who are accustomed to this readily recognize the wonderful behavior of a colony that has just been made queenless. How, I repeat it, could a numerous colony be apprised of the loss of the queen, if it were not for the missing of her familiar odor which they evidently consider as one of the necessities of happiness? It is out of the question to suppose that the bees are constantly asking one another whether they have met the queen lately; and yet we all know that in a crowded hive, when all are busy, there must be thousands of bees that do not see the queen once a week, much less at all hours of the day.

Has the queen a very perceptible odor? No one who has ever handled fertile queens in his fingers would answer that question in the negative, for every man has certainly often noticed how eagerly worker-bees travel over your fingers and examine them after you have had the queen in your hand for a few seconds.

Do the worker-bees have an odor of their own? Does each colony have a smell peculiar to itself? Undoubtedly as much as each of us has a sufficient individual odor that a dog may follow us and find us, if he is of good scent, a half-hour after we have passed through a certain spot. Each colony has an odor of its own through the wonderful adaptability of nature which makes no two leaves alike, though there are billions of them in the woods. Two men might have nearly the same odor, so that a dog might make an error, but this would be accidental. In the same way, similar smells, that bees could not recognize apart, would be entirely accidental and probably very rare.

Aside from the great variety which is one of the rules of nature, there are many things which will cause a difference in smell from one colony to another—difference which is sometimes so plain that man, with his very imperfect organs of smell, will himself detect. The age of the combs, the quantity of honey in the hive, its quality, its origin, its ripeness, the quantity of pollen, its source, the number of worker-bees, of drones; the quantity of brood being hatched, the source of the propolis and its greater or less use by the colony; even the location of the hive, its proximity to the soil, or elevation in the air; the age and quality of the wood or other material of which the hive is made—all these, and more, have an influence on the individual smell of the hive.

If, then, each colony has its own peculiar odor, as discernible to the bees that inhabit it as the smell of his master's clothes is discernible to the well-trained dog, or as his mate's odor is discernible to the horse who recognizes it through a plank wall, why should we deny to the bees the capacity of recognizing one another by the smell? True, it often happens that the bees will accept of strange bees without a fight, or will permit a strange queen to enter the hive and perform her functions, or will accept of strange drones; but this does not deter from our position. Will not a dog sometimes welcome a total stranger? Will not a horse welcome another horse, while he will fight a third? Likes and dislikes, conditions of prosperity or suffering and want, disturbances which change conditions of life, all these things, or each of them, may cause them to change their behavior.

We all know that in times of prosperity, when honey flows freely, and all the bees come home laden, there is no difficulty in getting a colony to accept strangers, especially young bees. Does it follow that they do not know them to be strangers? A man who comes to us with a smile and a gift is much more likely to be welcome than the man who has a frown, or with a searching or furtive appearance, as if he were seeking for something to carry away.

When we want to unite colonies of bees we smoke them and try to disturb them greatly before uniting them. Their mutual misfortune, in this disturbance, acts upon them as such things act upon the human race. During a calamity such as a great fire—the San Francisco disaster, for instance—the bonds that unite the race become much stronger and we become more fraternal. So it is with animals. Two roosters that were fighting only a few moments ago have become great friends in the misfortune of being both threatened with the cook's butcher-knife.

I think I have said enough in the foregoing to make the fact clear, that in ordinary circumstances it is well to give bees a similar odor if we want them to live peaceably together when introducing queens or bees to strange colonies. But in times of good harvest almost any method will succeed.

Hamilton, Ill.

Where Do the Bees Deposit Their Loads of Nectar?

BY ALLEN LATHAM.

On page 653, Mr. Doolittle offers us a very readable article relative to the brood-nest and freshly gathered nectar, and answers the question, "Where does the bee deposit its freshly gathered nectar?" Now, Mr. Doolittle has stated facts that are beyond dispute, and beyond misinterpretation, and what he has to say has been said better than I should have said it, but I am one who believes in reiteration. When I see a rather important fact noted and stated in our bee-papers, I feel moved to express approval when such approval lies within my province.

I had years ago settled to my own satisfaction this question of the disposition of the nectar, but did not till 2 and 3 years ago verify my conclusions by much observation. Like Mr. Doolittle, I have spent hours by the hive, and I can say with him that I have never yet seen a field-bee deposit a load of nec-

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tar in a cell. But I beg of my readers to note that I say that I have never seen it, and that I do not state that it never occurs. I must believe that it does occur, for my friend, A. C. Miller, says that he has seen it. It simply has not been my good fortune ever to have seen field-bees deposit their loads in cells.

On the other hand, I have many times seen field-bees give over their loads to younger bees. Many a time have I seen the incoming bee, unmistakable because of its pollen-dusty back, scurry about and draw the attention of younger bees. These younger bees gather about the head of the field-bee while that bee causes the nectar to drop into its mouth and rest in the depression bounded by mouth and slightly relaxed tongue. In this case the tongue is not extended, but is folded back much as it naturally lies at rest. I have seen 3 young bees at once relieving a field-bee of her load.

If one desires to see how a bee offers its load he can do so in a variety of ways. Let him drop a strange bee with load of honey amongst the bees of a colony. Except for the cringing and fear this bee will give over its load much after the fashion of a field-bee. Again, take a loaded bee in the fingers and press the distended abdomen with thumb-nail. After a slight pause the bee will cause the honey or nectar to accumulate above the folded-under tongue.

Mr. Miller, who takes a diametrically opposite view from that of Mr. Doolittle, would have us believe that the field-bee never passes over its load to other bees, but rather always puts it into the cell. This is not the first time that the Miller strain of bee has acted in a different manner from the Doolittle strain. I have never as yet had a colony headed by a "Providence Queen," but have had many a colony headed by a "Doolittle Queen." This fact may account for my agreeing with Doolittle in this matter.

I know for an absolute certainty that field-bees give over their loads to the home-bees. I do not know by my own observation that they sometimes place it in the cells themselves. I have watched for them to do this, again and again, and have never seen it done, hence I naturally conclude that the rule (though it may not be one without an exception) is for the field-bee to hand its load over to the home-bee.

It is manifestly true that in a time of heavy flow the field-bees would bring home more than could be retained by the home-bees. Whether at such times the field-bees are obliged to place the honey in the cells themselves is a matter which I hope some time to settle to my own satisfaction. That thin nectar very quickly reaches the cells, even when there are many home-bees which are not loaded to repletion, has come under my observation. This points to an early unloading of the home-bee, or else to the placing of the nectar by the field-bee.

One thing is to be noted: In a time of heavy flow all the younger bees of the colony will be surcharged with honey which they are curing, while the field-bees will in most cases lie idle in nooks and corners of the hive.

Another thing is worthy of note: Before a honey-flow the colony will not seem to be so very populous, whereas after the flow opens the hive almost immediately becomes overflowing with bees. It is simply a case of not room for bees which are full of nectar, but ample room for lank bees. Two fat persons take up the room of three lean ones on the seat of the street-car. A colony with 5,000 fat bees will seem to the novice more populous than will one of 10,000 lean bees.

Whether the field-bee puts its load into the cell or hands it over to a younger bee is not in itself of vital importance, though there is a certain satisfaction in knowing the truth of the matter. Personally, I am inclined to think that, except in times of heavy flow, practically all is handed over to the home-bees; while under pressure the field-bee disposes of it in the quickest and easiest way she can find.

Norwich, Conn.

Are a Queen's Drones Affected by Her Mating?

BY E. V. PAGAN.

On page 687, T. W. Livingston, with quite a flourish announces that he proposes to explode the theory that the drone progeny of a queen is unaffected by her mating, and calls upon all bee-keepers interested to listen for the explosion. Others besides Mr. Livingston have discredited the theory, but perhaps none of them has ever been so cock-sure of his ability to disprove it.

Some very able men have accepted the theory and defended it. In the first volume of the American Bee Journal, published in 1861, appears on page 41 the following sentence, evidently from the pen of its first and ablest editor, Samuel Wagner:

"The concurrent testimony of all observers, whose reports we have, is that Italian queens, fecundated by common drones, do invariably produce Italian drones, as fully and perfectly marked as, and in no respect different from, the drones produced by Italian queens fecundated by drones of their own race, and that a corresponding result occurs in the case of common queens fecundated by Italian drones."

The ground for this belief lies in the fact that an egg which produces a drone is unfertilized, and so must take its characteristics entirely from the mother. It sometimes happens that a queen which has not met a drone proceeds to lay eggs, such eggs invariably producing drones. These drones certainly can not be affected by the mating of the mother, for the mother has not mated. The question is then asked, "Can the drone-eggs of a mated queen be any more affected than those of an unmated one, seeing that the eggs are no more fertilized in one case than the other?"

To this it is replied by those who hold the opposite view that the blood of the queen, in its circulation, is affected by the contents of her spermatheca, and thus the drone progeny is indirectly affected.

If this latter view be correct, it would be interesting to know to what extent this affecting goes. If only to an infinitesmal degree, it may not be worth considering, and this is the view that some take.

Mr. Livingston believes he has established his position because his queens were all the daughters of a pure Italian queen, and yet when queens were in turn reared from these daughters 90 per cent of them showed impurity in their worker progeny. One all-important item in the case is fatally absent. That item he should have given in some such words as these:

"I have the most indubitable proof that no colony containing any degree of black blood is located near enough to my apiary so that any of its drones could have met my queens." Without this his proof is no proof whatever.

In his closing paragraph he exhorts others to try the matter as he has done. How many bee-keepers are situated so they can try it, isolated from all black blood but that in their own apiaries? Is there one in a thousand?

Mints—Irregular Flowers

BY PROF. A. J. COOK.

Those of us who live in Southern California, will, of course, be partial to the great Labiate family of plants, for here belong the incomparable honey-plants, the white and ball sages. It is doubtful if any honey-plants, the world over, excel these in the quality or amount of honey which is furnished. The honey is like that from the clovers, especially the white clover—very mild and pleasant, and so is enjoyed by all. Of course, one who has learned to like the pronounced flavor of linden may prefer that to any other, and those that have a hankering for the almost rank taste of buckwheat will pronounce the mild sage honey as tasteless and insipid; yet it is incontestible that the most people will enjoy these mild honeys more than any other, and when they are white as are the sage and clover honeys, they will always top the markets, in most of the marts of the world.

It will be noticed that the mints, or flowers of the great family Labiatæ, are irregular, and so are like the flowers of the clover family—Leguminosæ, and of the figwort family (the Scrophulariceæ). All such flowers have developed to effect cross-pollination, and we should expect that they would be honey-plants of no mean rank. The irregularity and the nectar-secretion are for the same purpose, and so we should expect they would always be companions, as they are. This mint family is well named "Labiatæ," as this refers to the two-lipped arrangement of the flowers. These flowers, like the same in the figwort family, are decidely bi-labiate. This interesting conformation is obviously for the purpose of ensuring cross-pollination, as was so admirably demonstrated by the great Charles Darwin. The flowers are on the plan of five, but the petals are so united that there are two pronounced lips, and these in

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turn are lobed, one lip showing two lobes and the other three.

The stamens are as peculiar as are the petals, or showy parts of the flowers. Each filament bears at its end a longer or shorter sort of a balance pole, which is termed the connective, thus all is T-shaped; and at the ends of this are the anthers, that produce the pollen-grains. Often the ends of this connective are not equal, as noted in the white sage, and often one of the filaments is wanting. The arrangement of the stamens, the lips of the flower, and the stigma, are all such as to secure cross-pollination, and the great nectar-drop at the base of the bloom is to attract the bee, that she may not fail in her part of this important office.

All the mints are nectar-producing plants, and so are valuable honey-plants. The horsemint and the white and black or ball sage are among the most noted, as they are among the best. So far as I know, all the mints produce honey that is white, and of delicious flavor. In many places various of the mints are grown for commercial purposes, and in such cases are often plenteous enough to be of value to the bee-keeper. We all know the worth of motherwort and catnip, and wise is he who sees that these plants are thick in waste-places about his apiary. I know of no plant in the East that pays better for planting along railroads, etc., than does motherwort.

The white and ball sages of California are of great importance, as they both furnish honey that is very white, very delicious, and the quantity is often phenomenal. There is a good reason for this latter. The plants are of a kind that yield heavily, and besides, the blossoms on the ball sage, as the name indicates, come out in balls and open in successive periods, and so are in bloom a long time. The white sage is equally prolonged in its period of blooming. Here the flowers are in long racemes, and as the opening commences below and proceeds gradually to the tip, the time of bloom is very great. It is not uncommon to find flowers for the space of six weeks. Both of these plants usually commence to bloom in late May or early June, yet the time varies not a little. The period of bloom is still further lengthened by the locality of the plants. Often they are on the plains at or below the mouth of the canyon, and then extend up into the latter, and this still further prolongs the period of bloom.

It is not at all improbable that the value of the sages could be much increased by artificial means. At one of our farmer's institutes in San Diego, Mr. Harbison, of bee-keeping fame, stated that he had set the black sage at a great profit. There are acres and acres of land all along the mountains of Southern California, which can never be brought into profitable cultivation, as they are in old washes, and so are so stoney that to cultivate them would be quite impossible. These are often covered with sage. In many cases the sage is absent. I believe that it could be introduced in many places, and that in this way barren spots might become valuable.

Of late it is the practice to flood these wastes in winter by spreading the water from the mountain streams, so that what would be run off is thus conveyed into the great gravel reservoirs. This is a very wise thing to do, and will surely be practiced more and more, as water will greatly aid in clothing these waste places with these valuable honey plants.

I believe that these sages can be immensely increased with a little labor, and thus bee-keeping and the general horticulture and agriculture of the section will be immensely increased. Agricultural and pomology need the bees to do the necessary work of pollination, while the sages will make the bees so profitable that they will be kept in great abundance, and thus a great double benefit will come as a result of this wise planting.

Claremont, Calif.

Breeding of Bees—When Done

BY G. M. DOOLITTLE

There came in my multitudinous mail of a day or two ago, a letter with questions about bees. This is not peculiar, for I have spent much of my time for the past 30 years answering questions about bees and bee-keeping. But there was one question in this letter that was peculiar, and I am going to use it as a text to say a few words to the readers of the "Old Reliable," which means the American Bee Journal. The question reads as follows:

"Will you please answer through the American Bee Journal the following question: 'Where will bees hatch the soonest, in the cellar or out-of-doors? And which will be the best hatching, in February, March or April?'"

Before answering the above question I wish to say that from its wording, and the general tone of the other questions which the letter contains, I judge the questioner is a beginner in apiculture, and, if so, I desire to say a word to him, and also to all other beginners who have thought, or will think, of asking questions on bees.

The first thing to do in starting in the bee-business is to get one of the many good books on apiculture, all of which teach the first principles of our pursuit. Thoroughly read the book, for in it you will find the most of the questions answered which you will be likely to want to ask before you get past the rudiments of this branch of agriculture. This is a duty you not only owe to yourself, but one you owe to others as well. While I am, and have always been, willing to answer all questions which come to me, (having answered hundreds and thousands when the questioner felt too poor to enclose a stamp to pay the return postage), yet it is not fair to the older bee-keepers who are readers of the American Bee Journal, to have its columns filled up with questions and answers which are of such a primitive nature that they will be of no use or interest to the great majority. After you have thoroughly mastered all there is in any one of such books as "Langstroth on the Honey Bee," "Cook's Manual of the Apiary," "Quinby's New Bee-Keeping," or "Root's A B C of Bee-Culture," then your questions will be such as will be of interest to all.

Hoping that the above will be taken only in the kindly spirit in which it has been given, I will offer a few of my thoughts and ideas on the queries above propounded.

First, then, we have, "Where will bees hatch the soonest, in the cellar or out-doors?" To this I will say, that, as a rule, bees commence to breed much the soonest out-doors, with the exception of where a very warm cellar is used, and in this case my experience says they are not likely to winter as well as they would where the cellar was cool enough so that the mercury stood at from 40 to 50 degrees therein. I know that there are advocates of warm cellars for wintering bees, but my experience with cellars where the mercury was likely to run above 50 degrees has been anything but a success.

To the second question, "Which will be the best hatching?" I will say, that here our questioner makes a mistake, for in the breeding of bees there are young bees in all stages of maturity, from the egg to the mature bee just ready to emerge, or already emerging from the cell; so that there is no regular hatching, as is the case with eggs incubated by the mother hen, or in an incubator; but young bees are emerging or "hatching," as our correspondent puts it, all the time for a period of nearly nine months, or from January till November, if out-doors; or from April to November if wintered in the cellar.

When the bees first commence to breed, but a few hundred eggs are laid by the queen or mother-bee, and as these eggs hatch into larvæ, more are laid, sparingly at first; but as the season advances, an increase in prolificness is the result, till in June the queen is laying at the rate of from 2,000 to 4,000 eggs daily, so that now the hive is soon populous with bees, resulting in swarming, unless the apiarist takes measures for the prevention of the same. As the season draws to a close, the queen restricts her egg-laying, so that in October few if any more eggs are laid than in February, hence the colony is kept only about so populous, during the three summer months.

Now about early breeding: The questioner conveys the idea through his questions that he thinks the earlier the bees breed the better. The time was when nearly all thought the same, but experience with many of us has proven that some of the old notions of the past were mistaken ones, for such early breeding results in the wearing out of two old bees to where one young one is produced, owing to the great strain on the vitality of the colony engaged therein, which strain is always required to produce the necessary degree of heat for brood-rearing in cool or cold weather; while if breeding can be delayed till settled warm weather comes, the old bees can then produce 3 or 4 young workers to where one of these old bees die off, and that with less strain on the colony than is required when the bees are kept confined to the hive by cold and unpropitious weather. The heat inside the cluster of a colony

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of bees, which are wintering perfectly, with no brood, is about 65 degrees, while it takes at least 92 degrees to perfect brood, the usual brood-temperature being from 95 to 98 degrees. Therefore, in order to produce brood during February and March, together with very much of April, in this locality, the bees have to "burn" much honey in order to raise the temperature of the brood-nest the 30 degrees higher than is necessary when no breeding is being done.

Then, again, the bees which are reared during winter and early spring, beyond what are necessary to take the place of the old ones which die, are of no practical value, as they in turn die of old age before the season for the gathering of the surplus honey arrives; so that this early breeding means the wearing out of the old bees in any colony which goes to breeding early, the loss of a larger amount of stores which must be consumed to raise the heat inside the cluster 30 degrees higher than is needed for the best interests of that colony, together with the rearing of a lot of worker-bees which are of no practical value after they come on to the stage of action. For these reasons, as well as better wintering, the cellar is now preferred, in which to carry our bees through the winter in our cold climate, some bee-keepers even keeping them thus housed till into May.

Borodino, N. Y.

Bee-Keeping in the West Indies

BY A. BUTSCHE.

Although an article from the West Indies is not very likely to interest the readers of GLEANINGS particularly, there are certain items which, thanks to our continued warm weather and long honey-flow, we can more easily test than can be done in colder climates.

We notice, for instance, that there are quite different opinions prevailing concerning the use of queen-excluders. Some, like Mr. Greiner, claim that excluders considerably interfere with the crop of honey; others find them useless, as their queens never lay in the supers. The only reason I can assign for the fact that some bee-keepers have no trouble with brood in the supers is that their colonies, on account of winter losses and short honey-seasons, are never really strong. Our colonies slacken brood-rearing in December and January. The result is that, during the logwood flow in February, they are not strong enough to rear brood in the supers, although they will draw combs and store honey in two or three full-depth supers at one time. But when we come to June and July, talk about queens not going into the supers! Have I not met them crawling over the top-bars of a fifth full-depth super with eggs and brood all the way down to the bottom-board? A man here, after using excluders for one season, would no more dream of keeping bees without them than of keeping bees in box hives. Talk about Mr. Green having from one to twelve queens trespassing in the supers! I'll bet my life that, if I were to remove all my excluders, in less than three weeks there would not be a single broodless super in any of my apiaries.

Another item that interested me very much was the numerous hive-lifting devices brought out of late. I can see no earthly advantage in them in a country like this, where you can get a dozen iron-headed Congo niggers to carry you a house 15x20, three miles away, on their heads, for 10 shillings 6 pence. And then, what about the danger of one of those hive-lifting devices toppling over with five heavy full-depth supers hanging at the end of it? A man would be a fool if he ventured to set one of those engines agoing before making his testament. I think hive-lifting would just make matters worse. There are so many things already a poor fellow has got to hold with only two hands that I I do not see how I could operate a hive-lifter unless it could be done with the teeth. If God in his wisdom had wished the generality of men to be bee-keepers, I should not be surprised if he had given us a third hand. He might even have judiciously added another pair of legs, especially if he had meant us to keep hybrids.

Bee-fever is a comparatively new malady here. The place was first infected when Mr. Morrison passed here lecturing on bees. I happened to be in New York at the time; but on my return, some months later, I unconsciously caught the disease by passing one day round the corner of the building in which Mr. Morrison had been lecturing.

Mr. Alexander's articles leave one simply dumbfounded. Several queens in one colony at the same time! I think it was a pretty well established custom in hive politics that, when one queen came to the throne, she invariably killed her sisters, and even mother, to reign undisturbed, exactly as a sultan of Turkey would strangle all his brothers at his advent in order to cut short all plotting to dethrone him. We all have been accustomed to look upon a hive as a perfect specimen of the most absolute monarchy. If Mr. Alexander goes on like that I should not be surprised if, one of these good days, all of us poor bee-keepers should wake up millionaires. He seems to be wielding the magic wand, for at each stroke there is something more extraordinary turning up.

How strange there should be at the present time so many bee-keepers with endless associations and publications, especially in France and Germany, where 20 years ago, one might have roamed about the country for months without ever stumbling over a hive! In all my wanderings I have met a hive but once before keeping bees myself. It was in Brittany (France), during the dreary years of my *ologies*, as Mr. Crane puts it. I think there were three or four straw hives near a big patch of buckwheat. How it did us fellows good after pondering for months over the tedious works of Francis Bacon, Thomas Aquinas, and others, to get a lesson of more practical and more wholesome philosophy from a hive! I guess some of us preferred the merry hum of the bees to the clumsy mediæval Latin, which was the only language we were allowed to speak then.

The great trouble in bee keeping here is the insatiable stealing propensity of the nigger. He will take anything and everything loose about an apiary, such as covers, bottom boards, stands, etc. There is nothing the West Indian nigger won't take, from an old horse-brush to an old bottle of medicine. The hive alone he lets stand on its own merits, I suppose. Bee-stings are evidently not much to his taste. It is even trouble to get help at extracting time, especially when one keeps hybrids as I do. The screaming and wailing that fills the air round an apiary on extracting days is enough to remind one of a Russo-Japanese battlefield.

Our average yield here is about 120 lbs. per colony. Our honey sells from 20 to 28 shillings per 112 lbs. This would correspond to about 5 to 7 cents per lb. in American money.—Gleanings in Bee Culture.

Castries, St. Lucia, West Indies, May 16.

Helpful Hints in Extensive Bee-Keeping

BY E. D. TOWNSEND.

At this time an average colony was placed upon a set of scales. There is a rural mail route by this yard, thus I was able to get a daily, postal card report from this scale hive. A report of the weather was also sent, hence I knew at once of the drouth that cut short the last end of the honey season. I also kept in touch with the progress the bees were making in their supers, knew when they began to cap their sections, etc., and was thus able to give occasional suggestions as to taking off honey, giving additional super room, etc.

IMPORTANCE OF KEEPING YOUR FINGER ON THE PULSE OF A DISTANT YARD.

July 4th I received a card stating things were getting very dry; still the scale hive was showing a fairly good gain. This card led me to believe that the season was probably two-thirds over; and it was about noon, July 5th, when I arrived at this yard, on my fourth visit. There were only about 300 pounds of section honey finished and off the hives; but there was more being finished, as the dry weather was favorable to the curing and sealing of honey. No more empty supers were given; and it proved that we had made a good guess as to the duration of the honey-flow, for we got all the supers finished except eight or ten, that needed just a little feed to finish sealing.

I stayed four days at this trip; and my son and I worked faithfully with the sole purpose of getting this crop of comb honey finished up. The first thing we did, was to put bee-escapes under all the heaviest, or best finished supers. This was kept up until nearly every super in the yard had been handled, and all the finished sections removed. The partly full sections were put in supers, and returned to the colonies that were the most likely to finish them. When we got through there

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was no colony that had more than one super to finish, and several had none. These colonies that were left without supers were the new swarms that were still on one section of their hive. These were now given their other section of their hive. This gave them a week or so of the last end of the honey-flow for their own use, which put them in better shape to build up for winter.

During the time that this shifting was going on, we kept in mind the fact that some colonies were finishing up honey faster than others, and these free-working colonies were given those supers containing the most work to do. We think we gained quite a considerable time by doing this.

It is a custom of ours to do lots of this shifting of supers from colony to colony. To illustrate, a colony that is a little sulky about drawing out foundation in the sections, will often finish up and seal combs quite readily; taking advantage of this fact, we keep these sulky fellows finishing up work.

We had at this yard, about 35 new swarms; 30 from the 84 comb honey colonies, and 5 from the 84 worked for extracted honey. This just made up our loss through queenless colonies during spring, and was about the number we wanted. The first new swarms were hived in one section of our shallow hive, on combs where the bees had died during spring. The sections were removed from the parent colony, and given to the new swarm, on the old stand. This was done immediately after hiving; and with this treatment, there was not a single swarm absconded. Towards the last of the season, new swarms were hived in the dead-colony hives in the extracted honey yard; so that the yard had the same number of colonies in the fall that it had the previous fall.

This about finishes the story, except that Delbert stayed and finished harvesting the crop of honey, and put it in marketable shape. There were 2,300 pounds of No. 1 and fancy comb, and 6,000 pounds of extracted. This being a poor season, the crop was short. Delbert also fed three or four barrels of sugar to colonies short of winter stores. This yard being located on the bank of Rapid river, one of Michigan's famous trout streams, do not imagine for a minute that producing honey was all we did.

Feeding Back to Get Partly-Filled Sections Completed at the Close of the Honey Season.

Delbert came home the last week of August, having been in this yard a little over three months. My last, and fifth visit was the 5th and 6th of November to put the bees into their winter quarters.

I mentioned above that there were several supers that were not sealed and in condition for the market at the close of the season. In these last-filled, unfinished sections, the part that *is* capped, is very thin, or lean to look at, and were they finished up and capped without the cells being lengthened out, they would not weigh more than 11 to 12 ounces; and were we to feed to get them into marketable shape, the unsealed portion would be drawn out to the regular thickness, while the part that was capped would be left untouched, thus making a bad looking job. We remedy this by uncapping the portion that is capped, letting the bees do anew the whole job of capping, and this gives us a good, smooth, even surface—about the same as they cap with a natural flow. It was good enough, so that it went with the rest, at 15 cents a pound, on the car here.

Comparative Results in Extracted and Comb Honey Production.

The Comb Honey Yard.

84 colonies at $4.50	$378.00
16 empty hives and combs at $2.50	40.00
300 supers complete at 50c	150.00
Tools	10.00
1 honey house	50.00
Total capital invested	$628.00
Interest on capital invested	$ 37.68
Wear and tear	37.68
Rent and taxes	9.00
3,000 sections	13.00
30 pounds foundation at 54c	16.20
150 shipping cases	22.00
18 outside crates at 40c	7.20
Work (estimated)	75.00
Traveling expenses	20.00
Total expenses	$237.76

Credits.

2,300 lbs. comb honey at 15c	$345.00
1,000 lbs. extracted honey at 8c.	80.00
15 lbs. wax at 30c	4.50
30 new swarms at $1.50	45.00
Total receipts	$474.50
Expense items	237.76

Percent of profit on capital invested, 37 2-3 percent.

Extracted Honey Yard.

84 colonies at $4	$336.00
16 empty hives at $2	32.00
170 upper sections and combs, $2.	240.00
1 four-frame extractor	20.00
Tools	10.00
1 honey house	50.00
Total capital estimated	$788.00
Interest on capital invested	$ 47.28
Wear and tear	47.28
Rent and taxes	9.00
42 cases of empty cans	21.00
Work (estimated)	25.00
Traveling expenses	20.00
Total expenses	$160 56

Credits.

5,000 lbs. extracted honey at 8c.	$400.00
50 lbs. wax at 30c	15.00
5 new swarms at $1.50	7.50
Total receipts	$422.50
Expense items	169.56
Profits	$252.94

Percent of profit on capital invested, a little over 32 percent.

Total income from both yards	$897.00
Total expense items	407.32
Total profit	$489.68

Total percent of profit on both yards, about 34½ percent.

It will be remembered that the season of 1906, in the location where this yard is located, was very poor; bee-keepers getting only about half a crop. Had the season been an ordinary one, and we had harvested, say, double the crop we did, many of the expense items would have been considerably reduced; that is, in proportion to the amount of honey secured. Take the item of labor: While there was plenty for one to do a considerable of the time, at other times there was little to do; and, had the crop been double, just a little extra help at harvest time would have secured it. This extra help, and extra supplies would not have been anywhere uear as much expense, as would have been gained in the larger crop of honey; while the items of interest, wear and tear, rent and taxes, would be the same.

I think this statement would be incomplete, unless I told what my son would often say, while working this yard. The expression would be something as follows: "I could have worked five yards for extracted honey with the same labor it took to produce this crop of 2,300 pounds of comb honey."

Remus, Mich., Jan. 21, 1907.

—Bee-Keepers' Review.

Honey Ripened on Hives, Etc.

BY F. GREINER.

In the October number of the American Bee Journal it is said that honey improves if left on the hive to the end of the season. Thousands of bee-keepers of long experience, here and abroad, have said so again and again, and green honey has been severely condemned ever since I kept bees, if I remember rightly. We all know that green honey not only lacks in body, but it has not the fine flavor of well-ripened honey of the same source; it is therefore very important that the honey-producer exercises care in extracting. The notes of warning Mr. Townsend and Mr. Hutchinson sound should be heeded, and we should at least not extract from the combs till all sealed. If found necessary to extract from unsealed or partly unsealed combs, such honey should be kept separate and sold for less money. So far, so good.

I would now ask the question: Has any extensive experiment ever been made which goes to show that honey, after being sealed, improves with age if left on the hive, say to the end of the season? I am aware that comb-honey has sometimes imparted to it a peculiar —let me call it hive-flavor—if left on the hive an unduly long time. This flavor is somewhat objectionable to many, but possibly not so to some others. I very much doubt, however, that the body and general qualities of honey can be improved after it is sealed. I have had honey sour on the hive during the summer season and raise the cappings. The bees sometimes remove a part of such honey from those cells which appear to contain the worst honey, but even that which is left in those combs by them has a sour taste and smell. The bees seem to have no way to improve it even if left on the hive to the end of the honey season, as Hutchinson, Townsend and Dadant

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recommend. It is therefore necessary to go a little further in the selection of our combs before they go to the extractor. The combs which contain soured honey have a varying percent of unsealed or open cells sprinkled in among the rest. Seldom we find more than one unsealed cell in a place. Look out for such combs. Taste of such suspicious honey. If the slightest tang can be detected about it, reject it. I know of no way to improve such honey, and the only possible use that can be made of it is to put it into the vinegar barrel. It may also do for feeding bees in the early spring, but I do not know. I should want it all used up in brood-rearing if I used it in this way.

As different conditions alter cases, it would not do for every honey-producer to follow the advice of even such bee-masters as Mr. Townsend and Mr. Hutchinson to the letter, and leave all his honey on the hive to the end of the honey season, from more than one point of view. What may be proper and best for one bee-keeper may be entirely wrong for another. Located where I am, the early honey coming from the tulip tree is very dark, more so than even buckwheat, and decidedly unpleasant. The red raspberry honey and the earlier fruit-bloom honey is also objectionable on account of flavor and color. If I left on all extracting combs from the beginning of the season to the end, my honey would be very poor as to flavor and color. A sorting out of the different honeys would be impracticable, and I would be the loser in the end, for color always stands first, flavor next, and body last; this, at least, is my experience, absurd as it may be.

Now what is to be done in such a case? If extracted honey must be produced we must extract before the good white honey comes here about the last of June, then again as soon as this flow stops. We have to be on our guard so as not to have any late dark honey stored in the supers with the white. It is a very unpleasant situation. I realize how much more agreeable it is in a location where all the honey gathered is practically of one color and flavor. Virginia is one of those spots favored along this line; I have an out-yard there where practically only white honey is gathered.

In localities where it seems necessary to extract several times to keep the different honeys separate, naturally some green honey will have to be extracted. This answers nicely for feeding to comb-honey-producing colonies, and may be turned to good account in this manner. The washings from cappings can also be thus utilized if not thought best to make into vinegar.

Bits of Comb Attached to Sections

We sometimes come across a colony of bees which is great in attaching little waxen legs to the face of the comb and the separator. I have not found this to be owing to queen or any special strain of bees, but merely a temporary affliction. The next season, or even the next super during the same season, would be free from the trouble. When the faces of sections are thus attached to the separators by little stools, damage may result if care is not taken to detach them. As suggested in the October American Bee Journal, these connecting legs should be cut loose. A small saw, however, does the work much more satisfactorily than a knife. The blade of a hacksaw which costs about 3 cents may be used in lieu of something better, and when it becomes daubed with honey it may be left in a dish of water. I should be afraid to use a hot knife for fear of doing harm.

Changing Sections to Hasten Finishing.

Mr. Colton suggests, on page 682, to transfer the unfinished sections from the outside of the super to the center so that they will be finished quicker. He also says that he uses no separators. It will not be satisfactory, Mr. Colton, under these conditions, unless you have sealed surfaces each side of each section to be finished. When using separators it is all right. The bees can not then help themselves, but must cap the section even.

Comb Honey by Express.

The same number speaks of sending comb honey by express, and that the express companies, if they accept such goods, should handle them with care or else pay damages. That is right. It is a very singular fact that the express companies demand a very high rate for honey, but refuse to take any responsibility as to its safe transit and delivery. I have found it unsafe—nay, impossible—to send comb honey in single cases by express and have it delivered in good order. On the other hand, I have never had comb honey damaged materially when properly put up in carriers and shipped by freight. Do not ship comb honey by express, is my advice.

Naples, N. Y.

Conducted by J. L. BYER, Mount Joy, Ont.

Ideal Fall Weather

The weather here in Ontario, from September 15 to 25, was ideal for preparing bees for winter, and a lot of feeding could be done in a short time. From Sept. 25 to Oct. 12 it was unseasonably cool, but now (Oct. 17) we are enjoying balmy, summerlike weather. This will give a chance for feeding where necessary, if the work has been delayed thus far. Unfortunately the writer was one who had to feed a large amount of sugar; but, really, the only undesirable part of the work was handing out the cash, as the feeding was all done in such a short time.

With three yards to feed up, the task looked pretty big, but with about 20 Miller feeders at each apiary, starting Sept. 15, all colonies were fed in less than 3 weeks. While all colonies are heavy in stores, in our own yards I think the clusters will not average nearly as large as in other years. Whether there will be difference in results as to wintering, as compared with other winters, remains to be seen.

The Next Ontario Convention

The Ontario Horticultural Exhibition, or as it is more generally called, the "Fruit, Flower and Honey Show," will be held this year again in Massey Hall, Toronto, on Nov. 12 to 16. At the same time (13, 14 and 15) the Ontario bee-keepers will hold their annual convention. Regarding the convention and exhibition, the Canadian Bee Journal has the following;

"The Ontario Bee-keepers Association will hold their Annual Convention in Toronto, Nov. 13, 14 and 15, the week of the Fruit, Flower and Honey Show. A splendid program has been prepared for the Convention, a few of the addresses being as follows:

"'A Chapter of Mistakes,' by R. H. Smith of St. Thomas.

"'Foul Brood,' by Miss Trevorrow, of Meadowvale.

"'Comb Honey,' by S. D. House of Camillus, N. Y.

"'Distribution of Honey,' by W. A. Chrysler of Chatham.

"'The importance of keeping the brood-nest clear of capped honey by a moderate use of the extractor, either in the production of comb or extracted honey, by E. W. Alexander, of Delanson, N. Y.

"'The condition of the industry in Ontario,'—10-minute reports by the 6 apiary inspectors. This series of addresses should be full of interest. Owing to excessive losses during the past winter, bee-keepers should more than ever pay greater attention to the condition of their colonies at all times of the seasons. The inspectors have been visiting thousands of apiaries during the past year, and will, perhaps more than any other bee-keepers, have acquainted themselves with the conditions that make for success in the industry. Their report as to the state of foul brood will also be of exceeding interest.

"The honey show will be on a different basis again this year as the com-

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mittee has decided to go back to the system of offering prizes. A liberal sum is being put up, and bee-keepers all over the Province should take advantage of this opportunity to exhibit their product. Too much emphasis cannot be laid on this show as a means of advertising, owing to the immense population centered around Toronto. A splendid musical program is being offered at the show again. Toronto's 4 leading bands have been engaged for the evenings, and a splendid orchestra and other music for the afternoons.

"Entries should be made through the Secretary of the Association, Mr. P. W. Hodgetts, Parliament Bldg., Toronto, at as early a date as possible."

No question but that the Ontario Government is to be commended for the interest taken in apiculture and kindred pursuits, and it is to be hoped the bee-keepers of the province will reciprocate by both exhibiting and visiting the Exhibition. While the very poor season will, to a great extent, handicap the bee-keeping exhibit, yet if the splendid show of honey at the Canadian National Exhibition can be taken as a criterion, no danger but what a creditable display of honey will be in evidence.

As to the program of the Convention, the presence of some of the notable bee-keepers from "across the line" should be a stimulus towards drawing a bumper attendance at the different sessions. It is to be hoped that many of our American cousins who are not on the program, can see their way clear to attend the meeting. Fortunately, the bee-keeping industry knows no *"line,"* and all who come to visit the "Queen City," and attend the Convention, can be assured of a hearty welcome.

Railway rates are arranged as follows:

"Nov. 13 and 14, special excursions will be run by the railways to Toronto from all points in Ontario, at lowest one-way, first-class fare. Tickets bought on these dates will be good for return up to and including Nov. 16. Those desiring to attend the Exhibition on other dates will be able to do so at the same rate, but it will be necessary for them to obtain standard certificates from their station agent when they purchase their tickets to Toronto. One-way tickets to Toronto, with Standard Convention Certificates, can be purchased from November 8 to 16, inclusive, and will be honored for the return journey free, regardless of the number in attendance, up to and including, November 20, 1907. These certificates must he endorsed by the Secretary at the Exhibition in Massey Hall before they will be honored by the railways for the return trip. A fee of 25 cents will be charged for each certificate vised."

The Ontario Honey Show Prizes

The following is a list of the prizes offered at the Ontario Honey Show, to be held in Massey Hall, Toronto, Nov. 12 to 16, 1907:

	1st	2d	3d	4th
Best 20 dozen of comb honey in sections, (quality and finish to count 80 points, display 20 points, total 100 points)	$15	$12	$9	$6
Best 5 dozen of comb honey in sections, (quality and finish to count 80 points, display 20 points, total 100 points)	8	6	4	2
Best one dozen of comb honey in sections, (quality and finish to count 80 points, display 20 points, total 100 points)	4	3	2	1
Best 200 lbs. of extracted liquid honey to be displayed, 100 lbs. in glass, balance in tins	12	9	6	4
Best display of 50 lbs. extracted liquid honey in glass	5	4	2	1
Best 10 lbs. extracted liquid clover honey in glass	4	3	2	1
Best 10 lbs. extracted liquid linden honey in glass	4	3	2	1
Best 50 lbs. of extracted granulated honey	6	4	3	2
Best display of 200 lbs. comb and extracted honey suitable for a grocer's window or counter, (comb to be in sections, extracted in glass jars, tins or other packages suitable for general grocery trade)	10	7	4	2
Best 25 lbs. extracted buckwheat honey in glass	4	3	2	1
Best 2 dozen of buckwheat honey in sections	4	3	2	1
Best 10 lbs. of beeswax	3	2	1	
Best exhibit of 6 articles containing honey, showing the most practical methods of using honey for domestic purposes	4	3	2	1
Best and most practicable new invention for bee-keepers' use.	5	3	2	1
Best display of bees and queen which may be seen by visitors.	10	8	6	4
Best method of crating and packing comb honey, showing 12-section cases ready for shipment	7	5	3	2
Best packages for long distance shipment of extracted honey, showing method of packing and crating same	7	5	3	2
Best package for retailing extracted granulated honey, package to be filled	3	2	1	

The honey committee is composed of F. J. Miller, chairman; P. W. Hodgetts, secretary; and H. G. Sibbald and W. Couse.

A Serviceable Winter-Case

In "Gleanings" for Oct. 1st, editorially Mr. Root has the following about winter-cases:

"We believe that a very good serviceable winter-case can be made out of ordinary light building paper, or even a heavy grade of manilla, if oiled. The top of the hive should first be covered with several folds of newspaper, and then this manilla or building paper of suitable size should be laid on top, neatly folded around the ends and sides, and tied. Be sure to make the folds so they will shed water, not catch it."

While nothing is said as to localities where the plan outlined would be efficacious, I am quite sure that in our latitude, in severe winters, the paper protection for hives is simply "no good."

A few years ago, when A. C. Miller and some others were booming the paper for winter protection, the writer was quite enthused, and prepared a number of colonies according to directions. The result was a complete disappointment; while the bees packed in the "good old way" (the paper advocates call it the refrigerator style) came through in grand condition.

Bees in hives covered with paper, in different parts of the yard, nearly all perished, and what were left were mere nuclei in the early spring. All I have heard of in Ontario, who tried the plan, reported somewhat similar results. If any bee-keepers in Ontario have had success with the plan, I would be pleased to hear from them, so that I could possibly find out why I and others failed.

While I am at it, permit me to say that my opinion as to the use of paper for spring protection is just about the same as I regard it for winter use. Give me abundant protection over the top of the brood-nest, and I would not give 2 cents for all the tarred paper that could be wrapped around 100 hives. Already some of the prominent bee-keepers of the United States who have tried the plan, are now denouncing it, and I have an idea that inside of 5 years, some of the bee-keepers who are now advocates of the system, will keep "mum" when tarred paper is mentioned.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Questions About Shallow Hives

DEAR MR. SCHOLL:—In a late issue of the American Bee Journal you describe a system of using extracting supers for all purposes—for brood-rearing, for extracting, and for chunk honey.

1. Do you use an excluder to confine the queen in the 2 lower supers?

2. Does not rearing brood, and then using the same combs for surplus, give you dark combs and dark honey?

3. How about pollen? I should think there would be more or less of it stored in the combs where the brood was reared. Will an extractor throw pollen out of combs?

4. Do you use this same system for extracted honey? If I understand, you spoke mostly of chunk honey.

5. Would this same system work in this locality?

I worked 10 colonies for comb honey this season, and put in almost all of my spare time cutting out queen-cells and cutting brace-combs off the faces of the sections and fences, and I am about ready for something different. Although I will make about $75 clear of

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expenses this year, I am going to get an extractor and educate the public to eat extracted honey and not think it is half glucose or something worse. There are no extractors in this part of the country. D. B. KINNISON.

David City, Nebr., Sept. 17.

No excluders are used in my apiaries. The queen can go into both the lower and upper half of the hive as it is in winter. As soon as the brood-nest is enlarged, becomes crowded, and more honey is coming in than is needed in the brood-nest, a case of empty combs is slipped in between the 2 halves, thus giving plenty of room for egg-laying and place for the bees. This time is just about when bees are beginning to think about swarming on account of their crowded condition, and this manipulation generally knocks it out.

The upper case now becomes our first extracting super, being gradually filled with the honey not needed below, and crowds out of it the brood. Besides, the queen has plenty of room below, and no excluders are needed.

I have no trouble with dark combs, as my honey is the same from all of them. The pollen does not fly out in extracting; besides, most of it will be used up in the upper case, and the rest will be stored in the lower ones.

The same system is used in the production of comb or extracted honey. The manipulation given above is the same for all. Later, when the flow comes, supers of either sections, frames with starters for bulk comb, or full combs for extracted honey, are given under the top case. Tiering up is then practiced alike with all kinds also.

Dry Fall in North Central Texas

Bees in this locality (Central Texas) are having a long rest-spell. Most of the queens have entirely stopped laying, and no young brood is being reared. This is for the want of pasturage for the busy little workers. The 8-months' drouth we have just passed through has parched the fields and meadows brown, and everything has more the appearance of midwinter than our usual spring-like October and November weather.

See to the Winter Stores.

I should not be surprised if a good many bees would go into winter short on stores in the Northern and Central parts of the State, owing to the long drouth, and the bees gathering nothing since June. Our usual fall crop from the broomweed is a failure, and it would be well to make a close examination as to the amount of stores the bees have, and, if short, feed them. Don't put this off and risk it, and complain next spring that the bees didn't winter well; you had "bad luck" with the bees, etc. The days of "good luck" and "bad luck" with bees have about become a thing of the past here in the South. This is as it should be, too, for it is either pure neglect or hard-down stinginess in the apiarist if he fails to winter his bees in this climate. We have no fears of bad stores, too much pollen, or too many bees, etc. It is starvation that kills the bees here.

Reverse the Hive-Bottoms Now.

If you use reversible bottom-boards, November is the month they should be reversed for the small entrance in this climate. This should not be neglected, for the hives with deep entrances are sure to be infested with mice during the winter, which are very destructive to the combs, to say nothing of the annoyance they cause the bees, and I have reasons to believe that mice sometimes cause "swarming out" in winter.

General Rains Over Texas.

The long drouth is at last broken. We have had at least 3 inches of rain in the last 48 hours, with prospects good for more, and from reports from different parts of the State, we think the rain is general. This will be of no special benefit to the bees the present year, but as most of our best honey-plants come up and winter over like fall-sown wheat or oats, this rain has come just right to make them do their best.

It has been a long time since we have had an old-fashioned, good honey-flow all over the State, and it is just about time we were having such a year; if these rains continue to come this fall and winter, I would not be afraid to assure a good honey crop in 1908.

Dr. C. C. Miller seems still to be in doubt about queen-bees fighting when confined together. This is something I don't quite understand for so practical a man as Dr. Miller. Old queens 2½ or more years old will not often fight, but young, vigorous queens that are only a few weeks or months old will *always* fight to a finish for me when confined together. I don't know that they would do this if they were at liberty on the combs in the hive, but I should expect even then for them to show more or less hostility towards each other.

Some may say, "What has all this to do with practical bee-keeping?" It has this to do with it: If we are to practice the Alexander plan of keeping 2 or more queens in the same hive, we want to know whether or not we can expect 2 or more *young* queens to work peaceably or not. I have no trouble in keeping a young queen and 2 or more *old* queens in the same hive; but with *young* queens it is a failure with me. Who else has had experience along this line?

Resene, Tex. L. B. SMITH.

Bee-Keeping in North Carolina

I feel it is my duty to speak up for my old State of North Carolina, and let the Northern and Western bee-veterans know that we have some honey, and bees that know how to go after it. We have had a fine honey-flow here. Our principal honey-flow is sourwood, which is very fine and clear. The flow lasted 27 days.

I am sending a view of the home of my honey-bees. I have 15 colonies, which averaged 70 pounds to the colony. I have the hives on foundations 8 inches high and just the width of the hive, and sloping as you will see in the accompanying picture. I arrange them this way so that the toads, which are very numerous here, can not pick up the bees at night. I notice them trying to catch the bees. But when they make a dive they lose their foothold and turn a somersault every time.

APIARY OF G. F. JONES, OF ELKIN, N. C.

We have two robbing seasons—one in the spring and one in the fall. While we have a fine honey-flow now, my bees are robbing now the worst I ever saw. It is something that I do not understand. I would like to hear from some of the experienced bee-keepers why they should rob when we have a fine flow. My hives are all Danzenbaker style, and there is no place for the bees to start robbing. Our fall flow is from the frostweed and goldenrod, which is the last to bloom here.

I have been keeping bees 3 years, starting with one colony of Italians, and have built up to 15. I have had some gloomy times with my bees, and have never formed any acquaintance with them yet.

The American Bee Journal is one hundred percent finer, and I like it much better since it became a monthly.

Elkin, N. C., Sept. 23. G. F. JONES.

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Some Prime Essentials in Bee-Keeping

"Good morning, Mr. Robinson, I thought I would come over during a leisure moment and ask you some important questions concerning bees. I would like to have you tell me what you consider the most essential requisite to successful honey production."

"Mr. Jones, I can answer you in just two little words, 'the queen.' The queen is of the most importance to the colony, to the apiarist and to successful bee-keeping from a honey standpoint. You can build your hive of the most choice and expensive wood known to the world, but unless you have a choice queen of some good strain of bees your mouth will water for honey before you get it unless you buy it. The queen is your egg-machine, and as the eggs produce bees, and as bees gather honey, how do you expect honey, when you have nothing to produce your bees? Any queen that is not capable of depositing from 3,000 to 4,000 eggs every twenty-four hours and keep it up for weeks, just as the right time, is of no more use than a barren hen, so far as profit and honey is concerned."

"I see; but is that all that you consider to be of vital importance?"

"Why, of course not, Mr. Jones. There is the hive to look to, as to capacity for such a queen. Then there must be her breeding surface to consider. There must be storage-room supplied."

"Mr. R., what do you mean by breeding surface?"

"I mean territory, which is worker-bee combs, of sufficient capacity to deposit enough eggs in which to produce a large colony of working-bees. We practical bee-men use a hive that is known as the dovetail hive. It is made of such dimensions as to contain 8 or 10 frames, known as the Hoffman self-spacing frame. The frames are approximately 8x17 inches interior measure. There are 25 worker-bee cells to every square inch of surface. A frame contains 136 square inches of surface, and as there are 25 cells to the square inch, you have 2400 cells to the frame. As honey-comb cells are built on two sides of a center we must double the capacity of the frame, which would be 4,800 cells. As there are 10 frames in a hive we would have 48,000 cells. If the apiarist knows his business he will see to it that his good queen has this much surface in which to rear her bees."

"Does the queen lay in all this surface, Mr. Robinson?"

"Never. She occupies from none at all in December and January to from two-thirds to three-fourths in April, May or June, the rest being used for storing food-supplies, which is pollen and honey, this being used to feed the larvæ and for personal use. The bees' order of depositing their honey, pollen and larvæ come in the form named. First, next to the wood part of the frame, they store their honey, placing it in semi-circular form, the largest amount of honey being placed in the corners of the frame at the top. Second, is placed the pollen, in a narrow belt just below the circle of honey, conforming to it. Third is the brood, which occupies the rest of the frame.

"If you have these conditions reigning in your hive with a young Italian queen, you can cock your hat up on the corner of your head and make sure that you will get a fine lot of honey from that colony of bees that season, if there is any to gather."

"But, Mr. Robinson, you have told me how to fix my bees, but you have not told me how to get the honey."

"You mean, Mr. Jones, how to fix the bees so as to have them deposit their surplus for you? All right, do this: Get a super just the size of the brood-chamber, one to take the same size frames as above, and fill all of them with comb foundation. Now, just at the beginning of the honey-flow, go to the hive and take 2 or 3 frames from below and put them into the super and put 2 frames with the foundation below. Set the super on top of the hive and go your way rejoicing. Choose 2 frames with just the least bit of food to place above. When you place the foundation in the brood-chamber, place it just on the inside of the outside frame of brood. This is as near as I can tell you how to do it, but you must bear in mind that it takes years of apicultural experience to do this just right, and at the right time. If you have done this right, and at the right time, you may expect 50 pounds of honey from that colony in due time."

"Shall I take this honey out and let them alone for the year?"

"When these combs are full and sealed, take the extractor and throw out all this honey and replace, using care not to break the new, tender combs. Replace them in the hive. If the season is a reasonably good one you may expect them filled again. At the end of the honey-flow you can cut out some of these combs for comb honey if you desire some. Continue to take the honey from this top chamber just as long as the bees deposit it up there. I have taken it from some of mine as many as 4 times during a season, and have oftentimes had one colony to produce over 200 pounds of honey during one season.

"I can't tarry any longer this time, but I must tell you that if you want honey from your bees you must learn how to get good, young Italian queens into them. Further, you must cut away those old crooked combs and substitute therefor good, nice, straight worker-cell combs. Put them in a good, nice hive and then you will be all right."—T. P. Robinson, Bartlett, Tex., in Dallas News.

By W. A. PRYAL, Alden Station, Oakland, Calif.

The Honey Crop of California

The honey crop for 1907 has been far from being what it was expected to be. The rainfall was abundant in all portions of the State—in fact, in most places it was far above the average. Vegetation made a full growth, and the flowers were abundant enough. But the nectar-secretion was deficient, owing largely to the nights being too cool. In some portions along the coast the days were rather foggy. All of this kept the bees from getting in what would have otherwise been a record-breaking honey-flow. Even the fall flowers have not yielded much nectar; it seems that the bees could not gather enough to keep them from starving. On the whole, it has been a year of cool nights. Verily, it might be written, "the year was a cold frost for the bee-keeper."

Sun-Killed Wax-Larvae

Last spring I took occasion in these columns to note the fact that Old Sol was a valuable ally of the bee-keeper when the latter knew how to utilize him. I mentioned a case where Old Sol and myself (we are pretty friendly old chaps) got in and "did things" to that deservedly despised depredator of the apiary—the wax-moth larvæ. I had the "worms" "done to a finish" by the sun's rays.

Now comes the versatile Mr. Louis H. Scholl, and tells in Gleanings how "hundreds of combs have been 'disinfected' in this way in our yards." You are right, Mr. Scholl, the "worms" will hike as lively as a tramp will with a bull-dog attached to the seat of his unmentionables.

Honey Getting More in Evidence

I notice the grocery stores are now making a greater display of honey in windows and on counters than previously. Why they are putting it forward as one of the staples they carry, I do not know, but it is a good thing for the bee-keeper that they do. Possibly the pure-food law has induced the store-keepers to further the sale of the bees' product. When so much honey has been adulterated it might have made the shopman's life burdensome to answer all the questions as to the purity of the honey he carried. Now everybody takes

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it for granted that what is offered him is true to label.

One thing I know just now is, that with butter at 85 cents per 2-pound roll, honey will sell better than ever. Honey has not advanced anywhere near in proportion to other commodities. From 35 to 50 cents per jar (and the jar itself is often worth a dime) is about the prevailing price at the stores for good honey. I should like to see the dealer sell honey in bulk like he does syrup. I think it would be better for producer. If we could only place a honey on the market that would not granulate, the business would be much benefited. It is all right to say that candied is *per se* pure. But every grocer is not prepared to handle it in that shape. If all honey were candied the grocer would find it easier to sell it in that form than any other. Well, perhaps we might find a way to send all our honey to market in solid form.

Fall Flowers in California

The flowers of the fall are not overnumerous in California; neither are those we have prolific in nectar. At least such have been my observations. I believe no native flower can compare with the eucalyptus from Australia, several varieties of which bloom during the fall and winter months in California, and as they have been planted quite extensively in some places, they make good bee-forage.

Another foreign bee-flower common in California, but perhaps not planted extensively enough to be of any great benefit to the bees, is the pepper-tree (*Schinus molli*) of Chile. In this portion of the State it is in full swing in September. This year it was blooming earlier than usual—I saw some trees in a state of inflorence as early as May, and these same trees are so continuing at this writing (August 28) and I have reason to believe they will do so for a month or more yet. I have always considered it a good honey-secreting tree.

Wm. Muth-Rasmussen

This is the name of a bee-keeper this State has reason to be proud of; but how seldom do we hear of him nowadays. Over a quarter of a century ago he began contributing to the bee-papers, often furnishing drawings to illustrate the same. He is a genius, but for some time past he has been "hiding his light under a bushel." I believe there are few bee-keepers in the State that are better able to write upon topics bee-cultural than is this gentleman. And like the late Charles Dadant, when he began bee-keeping in this country English was, I believe, a language he was not accustomed to write; but his desire to express intelligently in print caused him to study up in this language, so that in a short time he could write better English than the average person to the manor born.

I have never had the pleasure of meeting Mr. Muth-Rasmussen, but a score or so of years ago we carried on a correspondence. By this means, and through a series of articles he contributed to the Pacific Rural Press, about 15 years ago, I came to know something of the man and his attainments. He is a machinist, I believe, by trade, but a bee-keeper by preference. His home is in far-off Inyo County—one of the most inaccessible spots on earth, or it was so a few years ago. A railroad may have reached that section by this time.

Naming Honey

A few days ago I had occasion to visit a gentleman connected with the shipping department of a large syrup-packing firm in San Francisco. As the gentleman was not at his place of duty at the time I called, I decided to await his return. To pass the time away, I casually surveyed that end of the business, and noted what was being sent off. I noticed that everything was guaranteed under the Pure Food Law of 1906, or bore on the label just what the package contained. Some extracted honey was being made ready for shipment, and I picked up one of the jars and read the label, which was nicely lithographed in colors. On a separate narrow label, pasted just below the cork, was the statement that the contents were packed just as it came from the package of the producer. That left the matter, if there was any, of adulteration, "up to" the apiarist. I should suppose, and it is fair to say, that that means *purity*, as no bee-keeper, I think has been known to adulterate his honey. It would not pay him to do so.

But I would protest against some of the highfaluting names some of these city packers give the honey that they send out. For instance, the honey I mentioned above, was called "Wild Rose Honey." There are some wild roses in California, but they do not furnish honey enough to feed a cub bear. Mr. Packer, your honey would taste *just as sweet* under its *true* name.

The Eucalyptus

Prof. Cook is out again in praise of these trees of the antipodes. I indorse what he says; in fact, since 1876 I have been a warm advocate of these trees for an addition to our nectar-secreting flora. Hereabouts I am sorry to observe that large numbers of the trees are being cut down, as the land is falling into the hands of the real estate boomer. Several large groves of trees more than a quarter of a century old have been sacrificed during the past two years. I believe this is one reason why my bees have not stored any considerable amount of fall honey the past few months. The cutting of the gum-trees would be all right if others had been planted to succeed them. As far as I know, the planting of these trees has been on the wane. And this should not be, for the wood has been greatly in demand the past year for fuel for domestic purposes. Since coal has soared up in price to almost double its former price, gum-wood—as eucalyptus-wood is called—has about doubled in value, too. I understand it is selling at from $7:50 to $10 per cord in 4-foot lengths.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Best Height from Ground for Hives

What is the best height from the ground for bee-hives? I have mine 20 inches, on a 4-legged stool, each hive separate. I have each leg of the stand protected half way from the ground up by a tin shield under which is a saturated rope of tar and kerosene. This is to keep out all the insects, such as ants, etc. I have never seen this done, but thought it a good idea. Am I right? I am not certain whether I should not allow access to hive for bees that happen to get in the grass, or that fail to alight on the board. I see most hives have a sloping stand. Which is the best, all things considered?

NEW JERSEY.

ANSWER.—Locality and conditions must decide. In some parts of the South your plan is adopted, and is absolutely indispensable, for the ants are so destructive that free access to the hives means the ruin of the colonies. In my locality I think it is much better to have the hives close down to the ground. Ants do not make much trouble, and, as you suggest, when a heavily-laden bee, returning from the field, drops to the ground from exhaustion, it is much better that it can crawl into the hive without having to fly up very high. Perched up, a hive is of more convenient height to work at, but only while one is standing. For one who works all day at bees it is easier to sit, and he will live more years than if he does his work standing. If I were living in your locality I think I should very much prefer having the hives low down, and have a comfortable seat. Costs less, too.

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Changing Hives—Doubling Colonies for Winter

1. I am taking care of a few colonies in old-fashioned immovable 8-frame hives. Can I in any way advantageously get them into 10-frame Langstroth hives, either this fall or in the spring, so as to have the full benefit of their summer's work in the new hives?

2. Some of the colonies swarmed out so late that they have not surplus honey enough to winter themselves, while others have more than I think necessary. Can a small late colony be doubled in with a large one and wintered through as one strong colony? MINNESOTA.

ANSWERS.—1. Don't think of disturbing bees by anything like transferring as late as October, or even in September. It would not give them a fair chance to get comfortably arranged for successful wintering. Wait till fruit-bloom next year, or perhaps better still, wait till they swarm, and then break up the old hive 21 days later. If the frames were not "immovable" it would be a different thing, but even in that case they better be left undisturbed till next spring.

2. Yes, although there is some danger of fighting. One way is to set one hive over the other, wirecloth between them, and after 3 or 4 days or a week arrange all the filled frames in the one hive. It may do without the wirecloth if you set the one over the other very quietly, so that each colony will stay in its own hive till a warm day comes.

Introducing Queens

1. I purchased 7 queens and I tried to introduce them by placing the new queens in the hives they were expected to occupy and leaving them 3 days before removing the old queens. At the time I removed the old queens I gave the bees a chance at the candy. Four of the old queens I caged and placed in upper stories, so that if the young queens were killed I could let the old queens out in the hives they formerly occupied. In every hive where both old and young queens were caged, the young queen was killed when she was let out. Did the bees recognize their old mother in a cage with a quilt between her and the bees, and the young queen directly among the bees?

2. Is this the usual state of things, or do you usually leave the old queen in the hive to replace any loss?

3. In 3 hives that I had killed the old queens (upon taking them out) the young queens were accepted. But one colony had 9 sealed queen-cells and the young queen was right among them. What were they going to do? MISSOURI.

ANSWERS.—1. Being in a cage would not at all prevent the queen from being recognized as well as if she had been at large. There was a quilt between the 2 stories, but it is not clear whether there was communication between them. If there was a chance for the bees to get up from below, even if only a small passage, then it was much the same as if the old queen had been in the lower story, and the bees would be pretty certain to kill the new queen. If the quilt shut off all communication between the 2 stories, then it was strange the new queen should have been killed.

2. No, it is not usual to leave the old queen in any part of the hive after the bees are allowed to release the new one. If it be desired to save the old queen, she may be taken with 2 or 3 frames of brood and adhering bees, and the whole put, as a nucleus, in another hive.

3. It is nothing unusual for bees to start queen-cells when a new queen is introduced. Even if the old queen be caged, they are likely to start cells. Although a queen is in the hive, she is not laying, and they seem to think a successor should be supplied that would do better work at laying. After the queen is freed and gets to laying they may destroy all the cells, but sometimes a young queen is allowed to hatch and destroy the laying queen.

Does Queen Lay in October?—Preventing Swarming

1. I looked into one of my bee-hives the other day to see if the colony had a queen. I found no eggs whatever, neither any larvæ. Now, as I am a beginner, I should like to know if the queen lays eggs in October. The climate is rather cool.

2. As I want to be prepared for next year, I should like to know how to keep my bees from swarming. MINNESOTA.

ANSWERS.—1. The queen sometimes lays well on into October, but in most cases, as far North as Minnesota she is more likely to stop laying in September.

2. A whole lot of people have been trying to find out that same thing for a good many years, and perhaps no plan has been found yet that is entirely satisfactory to all, although every now and then some one claims to have succeeded. Perhaps the larger number content themselves with shaking swarms as coming the nearest to entire prevention, although strictly speaking it does not prevent at all, only anticipates the action of the bees. If you are working for extracted honey the problem is easier than with comb honey. The Dadants get along with only 2 to 5 percent of their colonies swarming, and their only means of prevention is giving abundance of room, both in the brood-chamber and in the surplus apartment. The Demaree plan with some is entirely successful in preventing all swarming. Just before there is danger of swarming, put all the brood in a second story, leaving the queen in the lower story with empty combs or foundation, and a queen-excluder between the two stories. Perhaps this may work perfectly with you.

Wintering in Chaff-Hives—Caucasian Bees

1. I have made a number of chaff-hives, ⅜ by ½ inch dead space filled with dry chaff packed in moderately tight. Will my bees, all good strong colonies, winter in these set on the south side of an 8-foot fence? The covers are chaff also, 1½ inches in center and ⅝ on edges.

2. With an opening (entrance) say 4x⅜ inches, do I need any further ventilation, if I attend to keeping the entrance open during the winter?

3. What is the present consensus of opinion among bee-men regarding the Caucasians? I may as well mention that I have a colony which while not overly strong, as I robbed it of brood to start other colonies, gave me about 25 pounds of comb honey, and the season was remarkably poor. I think. Perhaps I think so because I am just commencing in the bee-business. IOWA.

ANSWERS.—1. You can tell next spring better than I can tell now; but if obliged to make a guess in the case, I should say they ought to winter all right.

2. I think not.

3. There is no consensus as yet. One says they're tip-top, another says they're not worth keeping. Perhaps there are Caucasians and Caucasians. Your opinion is as good as that of any one else, after you find out what they will do for you as compared with others.

A RECORD IN TAKING OFF HONEY.

We have harvested a good crop this year, and I made a record in taking off extracted honey. I should like to see this surpassed by some of the plain-frame men. In 10 hours 2 boys and myself took off extracted honey, put all the combs back, and cased 350 gallons of honey. I took off every comb and wheeled them to the tent in a wheelbarrow, four 10-frame bodies at a time. That talk about its being so hard to get self-spaced combs out of hives is all nonsense. The day before we made this record we took our outfit 14 miles, and put the tent and everything in working order, and extracted 300 gallons. But we had to get up at 2 a. m.; but that shows what can be done if one gets in a rush.—A. H. Knolle, of Texas, in Gleanings.

GASOLINE ENGINE FOR EXTRACTING.

E. W. Alexander is enthusiastic as to the use of a gasoline engine for those who produce extracted honey on a large

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scale. Indeed, he thinks that a bee-keeper with 100 colonies cannot afford to do without such an engine, whose total running expense is less than 1½ cents an hour, which is always ready to work, and never complains of being tired. He says in Gleanings:

"Now the question is, in your mind, 'Can I afford to buy this outfit?' Well, I will tell you what it is doing for us, then you can answer that question yourself. One year ago, with about the same number of colonies, we employed two men during the season, and a third man part of the time. Now we can do the work much better and easier with one man. You can figure out the amount here saved. During the extracting season we usually extract our combs 6 times, and we now find that such sets of combs, when taken from the extractor, are about 2 lbs. lighter than they have ever been before. Here we gain at least 10 lbs. per colony during the season. I leave this also for you to figure out—the many dollars' worth of honey saved on nearly 700 colonies."

Deutscher Imkerbund.

Under this title has been formed a grand union of practically all the different organizations of German-speaking bee-keepers—at least it is the expectation that those societies which have not yet done so will give in their adherence—and German bee-papers are enthusiastic over the matter. Well they may be, for the organization at its start numbers 100,000 members, with the prospect of increase to 150,000 or more.

And our National Association has only 2,500 members!

Prices of Honey.

Something out of whack about quotations in "Honey Markets." A difference of 6 or 8 cents a pound between places so near together, and a higher quotation in Frisco than New York don't look right. Fact is, the dictum of those men who make quotations has almost everything to do with settling the price, and those 16-cent men are not doing the square thing by us producers. With the advance in prices in general, and a shortage in the supply, anything like 16 cents for comb honey is out of all reason. Talk about honey being a luxury, and anything more than 16 cents being prohibitive! The fact is, honey is an economical article of food, and with our pure-food laws there's no reason why it may not take its proper place as a staple article—at 25 cents much cheaper than butter, even if you call it a luxury. Years ago 25 or 30 cents was not a prohibitive price, and it wouldn't be now. Luxuries are cut out when pinching hard times come, but times are not pinching. Never, perhaps, was there a time when people in general were more able to indulge in luxuries than now—never more willing, and they're willing to pay the price. The whole thing is, that a few men set the pace and we producers stand it. Gentlemen who do the quoting, please give us a square deal.—[That's right, Doctor. These men mean to give us a square deal; but they do not appreciate the fact that the crop is very short; that fruit is scarce; that adulterated honey can not pull down the price of good honey as formerly. There has been a marked advance in all food products except honey. While it has advanced in some markets to a fair price it has made only a slight gain in others. This is not as it should be.—Ed.]—Stray Straw in Gleanings.

Natural or Artificial Supersedure—Which?

R. L. Taylor discusses this question in the Bee-Keepers' Review, and thinks the answer depends upon which pays best financially. In artificial supersedure the first item of expense is, say for 100 colonies, not less than $50 for queens. He does not fancy the job of looking through the 100 populous colonies to find their old queens. Mr. Taylor continues thus:

"Then, there are 100 queens to be introduced; and after all is done, what has been gained? Colonies with queens that possibly, (but by no means certainly), may average a little better, and that is all. Some of these queens, as with any introduced queens, will disappear after beginning to lay; occasionally one will not be accepted at all. It is quite probable that 2 or 3 of the colonies, unless looked after closely, may go into winter quarters queenless; and if the bees have wintered badly the queens will keep perishing in the spring just as the rejected ones would have done in the same circumstances. Queens in colonies that have wintered well, even though such colonies have not been requeened, do not disappear by the half-dozen in the spring. In an apiary of from 150 to 200 colonies I seldom find more than 2 or 3 queenless colonies—in fact, as many colonyless queens as queenless colonies.

"I will not deny that one may keep his apiary a little more uniform in strength by the requeening of an occasional colony, but I cannot escape the conviction that his care and time might be more profitably employed in a financial point of view. If the gratification of a *sentiment* is of more value in his estimation—of more value than a thicker wallet—well and good.

"Who dare affirm that, not better but as good queens can be supplied colonies by any interference of the hand of man as by natural supersedure, where all is accomplished without any excitement or disturbance? The bees, it must be admitted, attend to this very well, as was to be expected, for it is *nature*. There will be a few failures, no doubt, but if my own experience is a safe guide, 5 percent would easily cover the whole of them. How easy, then, becomes the solution of the whole matter; simply keep, with almost no trouble or expense, 5 percent more colonies.

Bee-Keeping on the Danube—Honey in Vienna.

The following is a translation of an article in *Bienenvater,* made by Fr. Greiner of New York, for Gleanings in Bee-Culture. It is entitled, "Bee-keeping on the Shores of the Danube; Price and Market of Honey in Vienna":

I commenced bee-keeping in 1890 with three box hives. How I increased my apiary during the following 14 years, partly by purchase, partly by natural swarming, need not be told. During the first three years there was no honey to sell; but during the next three years the crops ran between 140 and 200 pounds from the yard. This amount was easily disposed of in my little village at 40 cents per pound. It appeared that 200 pounds was about the maximum I could find sale for in the place. The bees, however, kept increasing, so did the honey crops, and soon I had a surplus of 200 pounds, yes, even 300, above what I could sell to my neighbors, and the question arose: "What can I do with it?" I put out a sign, "Honey for Sale." I advertised in the papers, putting my advertisement on wrapping-papers of the groceries; I left some honey at the stores, canvassed bakeries, drug-stores, etc., and always carried samples of honey in glass vials with me, but I failed to make sale for such a *quantity of honey.* I succeeded, however, in increasing the sale in my home market by 120 pounds, and this was the limit. What now? Must I sell cheaper or reduce the number of colonies?

It happened just at this time that an old schoolmate of my wife, then living in Vienna, called on us. After taking in the situation she suggested, "Bring your honey to Vienna. I warrant you a sale of five pounds in the house where I live." This was considered, and after a few days my wife went to Vienna and took five pounds of honey with her, which she had no trouble in selling at our old established price. After one week she made a second trip and took 10 pounds with her which she sold; and after four weeks more a third trip was made, and another ten pounds was disposed of. One family recommended our honey to another, till finally we about monopolized the honey market in this street, having honey customers in as many as twenty different houses. Today, after five years of persistent efforts, my wife has sold, from June 16 to Dec. 10, as much as 1,072 pounds of extracted honey, all at 40 cents. It seemed pretty hard for the first two years to peddle honey. It went somewhat against our grain. Still, wife was always courteously received everywhere, even invited to take meals, etc. She enlightened people, and overcame the mistrust and the notions held by the general run of people. To think that she succeeded selling nearly 1100 pounds of honey in one year!—what honey-producer could make a better showing?

Vienna has a population of 1,500,000. There are 3000 streets and 3300 houses. A great deal of honey could be disposed of here in this city if the bee-keepers would go to work systematically. But one must not be ashamed of hard and honest work.

Comments by the Translator.

It is an undisputed fact that there is not honey enough produced, either in Germany or Austria, to supply the demand; and still the great problem is not how to produce but how to sell. European conditions are such that "honest work" is just enough humiliating and degrading so that hundreds of bee-keepers shrink from *peddling* the product of their bees. It is next to an impossibility for the city consumer to meet the producer face to face. The more refined, the better posted and educated the latter is, the greater the barrier that separates him from the first. He would be ashamed to look other people in the face if it were known he "peddled." The American may do any kind of work and preserve his dignity.

A late article of F. Dickel, in *Die Biene,* "Proposition how to make Bee-keeping more Popular and Better Paying," concentrates its force upon the sale of honey in particular. There seems difficulty in reaching consumers. On the other hand, consumers have difficulty in finding the producers of honey. They would like to purchase a pure article, but have no way of finding out where to get it. Dickel has the idea of establishing a honey-exchange, and advertising the same in the city papers, also appointing agents in the different cities to make the sales, for which service the agent is to receive nothing. A price is to be agreed upon. The publishing of articles on bees, of general interest, he also recommends.

From all the above it will be seen that bee-keepers in other lands are wrestling with the same problem we are in America, and are considering the same means to solve it.

A Score of Commonly Asked Questions.

1. Should supers be left on the hives during the winter?

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No, not unless you wish to remove the inside fixtures and substitute packing material.

2. Will it hurt the bees to open the hives in cold weather?

Yes. Ordinarily hives should not be opened after the cold weather sets in, as it breaks the propolis sealing and permits cold wind to blow through the cracks. If it is absolutely necessary, wait until a warm day.

3. Which are better—sealed covers or absorbent cushions laid on the tops of the frames?

Sealed covers. There was a time when it was considered best to place cushions directly over the frames; but since they often get wet from water of condensation, and freeze, flat covers sealed down by the bees are now recommended.

4. Should queen-excluders be left on through the winter?

No.

5. How can I tell whether there is enough honey in the hives?

By looking over the combs before cold weather comes. There should be an average of three or four pounds of sealed stores in each comb.

6. How much honey does it take to winter a colony?

From 20 to 30 pounds, depending upon the size of the colony. Bees in a cellar usually need less than those out of doors.

7. How can I winter a weak colony?

In a good bee-cellar. But it is generally best to unite the weak ones before winter.

8. Does it pay to give cellared bees a mid-winter flight?

Yes, if necessary. But the best way is to manage so that they will not need such a flight. As long as bees are quiet, don't disturb them.

9. My cellar has a damp floor; will it do for wintering bees?

Yes, if the damp floor is the only objection. If the atmosphere is dry, the air good, and the temperature kept about 45 degrees, there should be no trouble.

10. Is cork dust good for winter packing?

Yes, if you can get it cheaply. Usually it is pretty expensive.

11. Shouldn't double-walled hives have packing material under the bottom-boards?

Not unless they are raised from the ground, and in many cases it would not even be necessary then.

12. Why did four of my five colonies die that I wintered out-of-doors?

We don't know, as you haven't given us all of the particulars. Any of the following reasons might explain the trouble: Colony too weak in the fall; bees too old; packing insufficient; location too much exposed; entrance too large or small; queen dead; poor quality or too small quantity of stores; wet packing.

13. How large an entrance should I have for my colonies in eight-frame hives wintered out-of-doors?

It depends upon the strength of the colony; but ⅜x4 inches is probably not too small. Smaller entrances are now considered better than the larger ones advised several years ago.

14. One of my queens died in January. What can be done?

Introduce another queen if you are so fortunate as to have one. If not, unite the queenless colony with some other weak colony.

15. The packing over my bees is wet. What shall I do?

You should have put on a super cover so that the bees could seal it down. A dry cushion can be placed over this if necessary.

16. How can I keep my bees from flying out when the sun shines, and dying on the snow?

Place a board in such a position that the sun can not shine in at the entrance, thus luring the bees out when it is too cold for them to fly.

17. Can I winter my bees in a building above the ground?

Yes, if the temperature can be kept uniform at 45 degrees. Otherwise you had better not experiment.

18. How can I feed my bees in the cellar?

Place an empty super on the hive, and partly fill it with moistened loaf sugar.

19. How may I know whether my colonies out-of-doors are short of stores?

If necessary, open the hives and make an examination on the first warm day. But it would have been much better if you had made sure that there were plenty of stores in the fall.

20. Why is sugar syrup preferable for winter food to honey?

Because it is cheaper, less stimulating, and always the same. Some kinds of honey are not at all suitable for winter food.—Gleanings in Bee Culture.

The Bravery of Bee-Keeping

BY T. MAGUIRE.

I never fully realized the possibilities of bee-keeping under the bar-frame system until I saw an "expert" at a local show handling a soap-box full of bees for the edification of the public. He was just an ordinary "expert," nothing exceptional about him to all appearances, but the way he handled those bees was a caution. He wore neither gloves nor veil, but nevertheless he treated these bees with a familiarity absolutely uncanny. He took the combs out of the box, with myriads of bees clinging to them, and showed them round to the admiring crowd. He playfully stirred the bees up with a pencil, pulled their ears, and tickled their tails, and they seemed to enjoy it. He gathered them in fist-fulls off his nose and eyebrows, and went round and caught stray ones, and brought them back to the fold, without the slightest objection on their part, and he talked volubly all the time of subduing and swarming, dividing and doubling, of queens and drones, and workers, and many other things, in so off-hand a way that his audience were thoroughly convinced of the absurd simplicity of it all. I was delighted beyond measure to find it so easy, and I enthusiastically hastened home with some carbolic and muslin to emulate the performance of the plausible old scoundrel, putting on veil and gloves, however, just as a matter of form.

I invited two ladies to see me tame the ferocious insects, and I got them to adjust the veil, as being "experts" in that form of garment. I have since had occasion to distrust experts of every kind whatsoever.

At first everything went off beautifully. The smoke and the carbolic had a most soothing effect on the insects, and I was able to examine them at much closer quarters than I had ever done before. I was delighted, and began to feel quite proud. It did feel a bit queer to find so many stings wagging about in such dangerous proximity to my face—it was about as exhilarating as being in a somewhat flimsy cage in the middle of a forest of tigers—but I pretended to enjoy it, and explained to the two ladies that it was nothing when you got used to it. They were lost in admiration of my bravery and skillfulness, and gaining courage I began to bustle the bees round a bit, as I saw the old chap doing at the show. But they were evidently a different race of bees from his, or perhaps they found such treatment a little strange at first. At all events, they refused to be bustled. The peaceful buzz quickly changed into a vicious snarl, and it soon became evident the nasty little beggars had got up their backs and were looking for scalps. They bashed up against the veil with an angry whizz, and they fizzed round the fingers of my gloves in a way that made me thank Providence for having the kindly protection. I was rather alarmed, to tell the truth; but I felt fairly secure.

Alas! however, I had not counted on the way that veil had been fixed. Bees have evidently a very efficient intelligence department. There was a weak place in the fastening of the veil, and they found it out. I thought I could almost distinguish a chuckle from the first bee, as, to my intense horror, I felt him crawl up my neck inside the veil! Soon another followed, then several more, and in a short time they seemed to be dozens, hundreds, thousands, millions of bees crawling all over my face and neck. They explored the roots of my hair, they sounded the depths of my ears, they crawled over my face and eyelids and moustache in endless numbers, The situation was appalling. If one dropped into a nest of rattle snakes or a bears' den he could at least fight for his life, but what was an unfortunate wretch to do with a big pair of gloves firmly and relentlessly tied on his wrists, and with a veil secured in the most diabolical fashion with dozens of pins, and swarming with excited bees on the lookout for soft spots round his face, and all getting ready to sting at a given signal? When the two ladies became apprised of the situation they hastily decamped. Whilst I was trying to consider what on earth I should do

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one enterprising bee, with a very superior kind of sting, ventured to inspect the inside of my nose. I remembered a song I once heard commencing:

"Go 'way, good massa bee,
I ain't no rose,
Dat ain't no honeyed fow'r,
Only my nose!"

I sniffed one desperate sniff to drive the intruder out, and then I discovered how well she was provided in the sting-department. I got it, and no mistake. I considered no longer. I caught the hat and veil, gave it one desperate tug, slashed it off, and sprinted, making a "bee-line" for the far end of the garden. The remaining bees must have been too much astonished to attend to their work properly, for I escaped fairly well considering; but what a face I had for several days after!

For some time afterwards my thoughts were principally occupied with two subjects—how to get the better of those bees, and how to accomplish a sufficiently blood-thirsty revenge on that "expert." I had almost decided on a diving suit for the former purpose, and a large pair of hobnailed boots and a knobby blackthorn for the latter when chance threw in my way a more convenient and enjoyable opportunity of killing both birds with one stone.

* * * * * *

Shortly after my adventure with the bees, I heard that the very "expert" gentleman who was the cause of it was in the locality and was looking up bee-keepers to enlighten them on the modern methods of working. Here was my opportunity. I immediately sent him a cordial invitation to come and clear up some difficult points for me, and I laughed with joy on getting his post-card making an appointment.

Now, although I made so signal a failure in my attempt to subdue my bees, I can claim to complete success in being able to stir them up thoroughly. An old countryman once told me how to do it. For obvious reasons I cannot give the recipe away, but it certainly is an infallible plan, and will convert the most amiable hive of bees into a tornado of raging, tearing demons, on very short notice. Of course, I had my swarm carefully roused up for the old chap when he came.

He is a solemn and portly gentleman, with a paunch and a double chin; an air of ponderous wisdom tempered by a smile of superior knowledge. My heart almost melted with pity for him when he came into the garden; but something in the swagger and his smile recalled the performance at the show, and I hardened up again.

He strutted over to the hive with a self-satisfied air.

"Hadn't you better put on a veil?" I asked.

"Oh, not at all," he replied. "It's not necessary. Bees know a friend when he comes to visit them. Just a little wipe of the carbolic, if you please?"

He took the lid off the hive with a sort of professional flourish, and placed the carbolic cloth in position with another. I awaited events, at a respectable distance.

"Seem a bit noisy, don't they?" he remarked. I assented, as solemnly as I could.

"Now, then, let's see what they're like," he said, as he removed the cloth. There was a moment's hush, and then a vigorous buzz. He replaced the cloth, and then after a minute or so took it off once more. He did the same thing again, several times, at intervals, but the noise still continued, and the bees were beginning to come out underneath, and were careering around with an unmistakable note of war in their music. Presently one settled on his hand, and stung him. He merely drawled out, "Ah!" and watched the insect in an interested sort of way, whilst it squirmed out the sting and flew off, when he smiled over reassuringly at me. But he began to look puzzled as more and more bees came out, and the war-note increased in itensity and vehemence. He must have got several more stings by this time, but his professional dignity being at stake, he made no complaint as yet.

"I'm afraid this is not their day at home," I remarked. "Better clear out, I think, as they seem in a fighting mood."

"They are certainly in a nasty humor," he replied. Just then one stung him on the nose, and he began to move off. The bees followed. He moved faster, so did the bees. Then he broke into a run, made a quick dash to one side, and doubled in his tracks like a hare. The bees seemed to enjoy it. They "zipped" down on his bald head and buzzed around his ears. They went up his sleeves and into his pockets. They were to right of him, to left of him, in front, and behind, like the cannon around the heroes of Balaclava. He danced through a gooseberry bush and barked his shins over a wheelbarrow, dropping his spectacles in the process. He frolicked through a cabbage bed, and crashed into a cucumber frame like a wild elephant. He fought with his hat, as long as a vestige of it remained. He cursed and swore, and laid about him, the bees paying careful attention to business all the time.

I lay down on the grass and choked, till the tears ran from my eyes. I felt sorry for him, but if the whole empire were at stake, I couldn't stir a finger to help. I wasn't able to see exactly how he finished up, but after a time a very angry and crestfallen and dilapidated old gentleman hobbled up the garden, trying to rub his head, and his face, and his shins, all at the same time. There was no use in trying to comfort him. I decided to let him swear for another while till he cooled a little.

After he had eased himself of some picturesque words, he demanded, "Where the blankety—blank so-and-so did you get those bees from?"

"Swarmed them myself last April," I replied, as calmly as my emotion would allow.

"By—— I'll swear it was the devil himself swarmed them," he roared. "They're the wickedest pack of demons I ever came across." Then he put in a good many ornamental expressions which cannot be set down here, and he earnestly requested me, in flowing language, to blow them to the uttermost bounds of perdition with the deadliest explosive I could procure.

I now felt that he and I were more than quits, so I brought him into the house, gave him a drop of something, and said all the soothing things I could think of. He calmed down after a while, when I brushed down his clothes, fished up his ruined spectacles, lent him a hat several times too small for him, and he went off. I could hear the dull rumble of his voice as he went down the road, "Perfect demons; damnable, damnable."—Irish Packet.

Normalities and Abnormalities of Queen-Introduction

Under normal conditions only one queen will be tolerated in a colony at a time. Should there by accident be two, when they meet there is likely to be a battle royal, when one of them will be killed; so it happens that queens are, as a rule, jealous rivals; but there are exceptions. There are conditions, as when an old queen is about to be superseded, when the young daughter may be tolerated in the hive along with the mother, and both laying side by side; but in the course of a few days or a few weeks the mother will be missing. Whether she dies of old age or the daughter kills her we do not know. There are other conditions where two and sometimes a dozen queens will be permitted to stay in the hive; but those conditions seem to be abnormal.

Again, it may be stated that a normal colony of bees will not take a strange queen, even though they have no mother of their own, much less will they accept an interloper when there is already a queen in the hive. We may, therefore, lay it down as a rule that has exceptions, like all other good rules, that we can not introduce any queen, young or old, to a colony that already has one; and even when the bees have been suddenly deprived of a queen they will not, under ordinary conditions, accept another, no matter how much they may need one, until she has been "introduced." It follows, then, in the process of requeening we are compelled to put a new queen in a wirecloth cage and confine her there, where the other bees can not attack her, until she has acquired the same colony odor or individual scent as the bees themselves. This usually takes two or three days, at the end of which time the queen may be released and they will treat her as their own royal mother We do not know how bees recognize each other, or how they can tell a strange queen from their own, except by scent factor. It is a fact well recognized that a dog can pick out his master from hundreds of others through the agency of scent; nay, further, he can track him if he loses sight of him by catching the scent of where he has walked, in spite of the fact that hundreds of others have gone over the same ground. This scent that is so acute in a dog is undoubtedly highly developed in the bee, otherwise we should be at a loss to account for the phenomena in the domestic economy of the hive. Hence we naturally conclude that, by the sense

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of smell, the bees recognize their own mother from a new or strange one.

Again, we learn that, if two queens have exactly the same colony odor after being caged for two or three days in a queenless hive, either one may be liberated and the bees will accept one just as readily as the other. If both be liberated at the same time, one in one corner of the hive and the other in the opposite corner, both will be tolerated by the bees; but once the queens come together themselves there is danger of a royal battle resulting in the death of one. From this fact we infer that the bees, providing a queen or queens have the requisite colony odor, would accept at any time one or more such queens under many conditions; that, further, when two queens have the same colony odor, if they can be kept apart by means of perforated zinc both queens can continue to lay eggs in the same hive without let or hindrance. This condition will be allowed so long as the colony prospers and there is not a dearth of honey. When there is a disposition on the part of the bees to rob they may destroy one of the queens.

Bees that have been shaken into a box or pan, and then shaken or bumped again and again until they are demoralized or frightened, are much more tractable than those not so disturbed. Bees if made queenless just prior to the shaking, if confined without combs or brood in a cool place for a few hours, will usually accept a queen at once. The factor of colony odor then apparently does not operate, for the bees are put out of their normal condition.

Another fact worthy of consideration at this time is that young bees just hatched will at any time accept any queen. Therefore, it comes about that, when one desires to introduce a valuable breeder on which he desires to take no chances whatsoever, he causes her to be released on a frame of very young or hatching bees; but consideration will be given to this later.

Another fact worthy of note is that virgin queens, if just hatched, will usually be accepted by a colony, if not too long queenless, without the process of introduction or of caging; but when one of these queens comes to be four or five days old she is very much more difficult to introduce than a normal laying queen. Why this should be so, we do not know.

Having stated, therefore, the basic principle governing the relation of the queen to the bees we can now more intelligently proceed to the methods of introduction, most of which are based on the theory that the queen to be introduced must first have acquired the colony odor of her new subjects.

There are some methods of direct introduction by which the queen can be released without the process of caging; but in the case of queens of any value they should not be employed, and are, therefore, not given in a work of this kind designed primarily for the novice in bees.—New edition "A B C of Bee Culture."

Reports and Experiences

Good Honey Season.

The honey season around here has been very good. I had 15 colonies the past season, and succeeded in getting 1536 pounds of honey from them. I had no swarming.

H. F. Kettlitz.

Monticello, Iowa, Oct. 22.

A Good Crop.

From 64 colonies of bees I took 12,680 pounds of honey. Edwin Bevins said if any one got a good crop of honey he would like to know it. T. L. Shawler.

Silver City, Iowa, Oct. 13.

Handles Bees Like Flies.

I have been for more than 50 years among bees; have hunted them in the woods and in the mountains of different States. I have no fear of their stings, and can handle them almost as if they were flies. I have 27 colonies. J. R. Heckman.

Johnstown, Pa., Oct. 11.

Apiary of Thos. F. Rigg.

Editor York:—Find enclosed a section of my apiary. It is not a commercial enterprise, in that it is run for profit wholly. It is one of my home pleasures which fits in nicely with my fruit and poultry hobbies. Still, I like to have my hobbies pay, and in this I have been very successful with the bees. As you know, this has been a very unfortunate year for bee-keepers in this section. Within a few miles of me are several apiaries, and not one of them this season produced a surplus worth speaking of. I was more fortunate. Mine averaged 74 pounds, comb honey, 4x5 sections, per colony.

I know but little about the proper management of an apiary. In fact, what I do not know about covers the field. But I am learning. I must give credit, therefore, for my success, to the Danzenbaker hive. This was a very backward spring. The bees of my neighbors, in the dovetailed hives, built up very slowly, while mine came on rapidly and were monster colonies when the harvest opened. The first swarm was cast May 17. This gave me 96 sections, while the parent colony produced 64 sections.

For 5 years I have wintered my bees on the summer stands, and have never lost a colony so wintered.

Our honey supply is white clover and basswood, with an increasing amount of sweet clover. Thomas F. Rigg.

Iowa Falls, Iowa, Oct. 4.

Apiary of Thos. F. Rigg, of Iowa Falls, Iowa.

More Honey Than for Years.

We have had a wonderful year in Colorado—more honey than for years. I took from 22 colonies 65 cases of saleable honey, besides several unsealed. I have 2 colonies that stored 14 cases, 24 sections to the case. Honey is going out of Montrose by the carload, and yet the best prices we have had for years—$2.75 for first grade and $2.50 for second. I fed my bees until June 10, and had about given up hope of a crop, but when the flow did come, it came with a rush. Bees could be bought very cheap last spring, but I expect they will be out of sight this fall. There are 5,000 colonies by the assessors' returns in this mountain valley only about 20 miles long, and from one to 6 miles wide.

Montrose, Colo., Oct. 12. E. C. Wright.

Poor Season for Honey.

Last spring was too late for a good honey season in Northeast Nebraska. I had only 22 colonies of bees the past summer, and I run them for comb honey exclusively.

The farmers of Northeast Nebraska had the poorest crop of oats we have had in 27 years, owing to too much rain and hot weather; but we are sure of a big corn crop, for it is matured now, and no frost yet to speak of.

I think the American Bee Journal is better than ever, but it doesn't come often enough for me. I could have stood it *twice* a week. But I trust that the publishers know best.

Carroll, Nebr., Oct. 6. W. H. Root.

Goldenrod as a Honey-Plant, Etc.

Dr. Miller and others report goldenrod of no value. I kept bees for many years in Northern Michigan where goldenrod abounded. We had at least 4 varieties of the plant there, 2 of which grew in large quantities. One variety grew from 3 to 4 feet high. It was most common on moist land. It bloomed profusely. Bees paid but little attention to it. The honey-yielding kind grew from 18 to 28 inches high. It spread over thousands of acres of sandy plains, and also over land where pine had been cut off, and yielded a large amount of amber-colored honey of fair quality. One fall a bee-keeper brought some 200 colonies to my place expressly for the goldenrod, and felt himself well paid for his time and labor. Prof. Cook, then in the Michigan Agricultural College, told me that the large kind was *Solidago Canadensis*. I suppose it is the kind you have. We have it here, but I have never seen a bee on it. I have forgotten the name he gave to the honey-yielding variety. I learn from the bee-papers that the region where I lived is filling up with men running large apiaries.

The honey-flow in the best localities and in a good season (and nearly all seasons are good) beginning with small willows on the sandy plains, is followed by huckleberry bloom, red raspberry (which often lasts from 4 to 6 weeks), and goldenrod, asters, etc.

I am an old man, 85 years of age, and living with my children. And now that my 20 colonies of bees are laid by for the season,

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I have little to busy myself about, so I write this. D. C. LEACH.

Springfield, Mo., Oct. 5.

[The above letter is of especial interest as coming from a man who has not only reached his "three score and ten," but has gone 10 beyond it with another 5 for good measure. The hand-writing certainly indicates a younger man. One can not help wondering whether the care of those 20 colonies is not helping to keep him young.—EDITOR.]

Extraordinary Honey-Year.

In Nebraska, especially in the vicinity of Lincoln, we have had an extraordinary year for honey. From many colonies in my small apiary I have taken 3 full cases well filled with beautiful white comb honey, making 72 pounds to the colony. It so far exceeds anything that we have had in the last 10 years, that we feel a little jubilant over the result. This, no doubt, results from requeening my apiary with new Italian queens. You will doubtless remember a year ago I wrote you that I had lost nearly all my bees with foul brood. Early last spring I took proper steps to eradicate the disease, and was successful. I was satisfied that to introduce new blood was the next step to take, and purchased queens of pure Italian blood from one of our local dealers who is an importer of the same. As an instance of what new blood in an apiary will do, I increased from 2 nuclei to 6 full colonies, each of which produced a super of honey—24 sections. This I call pretty good. Locality no douht plays a very important part in production of honey.

I am now situated something like 2 miles from College View, on Judge England's farm. As the Judge is an old friend of mine, it is by invitation that I am thus situated in the beautiful grove of catalpa trees east of his residence.

The change made in the American Bee Journal from a weekly to a monthly is a very important one, and, for my part, I am greatly pleased with it. You have added greatly to the reading matter of the American Bee Journal. I am pleased with it as a monthly.

Lincoln, Neb., Oct. 3. PHILIP MOHLER.

Eastern Trip Among Bee-Men.

In a recent trip to Vermont and New York I found conditions very much the same as in Iowa in regard to the honey crop. At Alburgh, Vt., I spent a pleasant hour with Mr. A. W. Darby, who is an extensive bee-keeper. In Albany Co., N. Y. (the buckwheat country) I was entertained by Mr. C. J. Bolster, who supplies the local trade with honey. I was surprised to learn that the greater part of his trade called for buckwheat honey, of which there would be but very little on account of lack of moisture. Very few bees are kept in Albany county. The New York black brood has done its work very thoroughly. There is very little honey in this county, but bees will go into winter in good condition. C. H. MILLER.

Jasper Co., Iowa, Sept. 27.

A Third of a Crop—Wintering Experiences.

The honey crop in this section was about one-third of an average crop. Bees gathered no honey until after June 10, as the weather had been too cold before that time for bees to fly. I wintered my 50 colonies without the loss of one. I wintered a part of them in the cellar and a part on the summer stands. I have not lost a colony out of 50 which I have wintered during the last 3 years. Those that are populous with young bees and plenty of stores I winter on the summer stands, while my lightest colonies, or those which are not so populous with young bees, I winter in the cellar, giving them a midwinter flight if the weather permits. I also winter 6 nucleus colonies every winter in the cellar without loss, so as to have queens for queenless colonies in the spring. Each nucleus contains 3 Langstroth frames, and a hive made to hold 3 nuclei, with a tight division-board, and a separate entrance for each. There is an advantage in this method of wintering nucleus colonies, as the nuclei all help each other in keeping up the temperature during the winter.

Bees certainly acted in a freakish manner last spring. Some very populous colonies swarmed without having gathered any honey, and during times when the temperature was not higher than 65 degrees, when the sun would not be shining more than 10 minutes out of an hour, and in every case these swarms had virgin queens. It is my theory that these colonies that swarmed had destroyed their laying queens some time before, as they were crowded with bees, and in some cases entirely out of stores; and as the weather was so cold and wet that the bees could seldom fly from their hives, I actually believe that the bees destroyed their queens to keep them from laying, and then swarmed when their young queens had hatched. I would like to have the views of those better informed as to these instances. JAMES WOLFE.

Captina, W. Va., Oct. 14.

Subscription Price Now 50c a Year

On July 1, 1907, when we decided to change the American Bee Journal from a 16-page weekly to a 32-page monthly publication, we reduced the price from $1.00 a year to 25 cents. We have since discovered that the 25-cent rate was entirely too low, in view of the kind of a bee-paper we are making every month. We do not wish to lower the standard now, and as labor, materials of all kinds including white paper, etc., have advanced in cost, we feel that the best thing we can do—in fact, the only thing to do—is to put the subscription price at 50 cents a year; in Chicago, 75 cents; in Canada, 60 cents; and in all other countries in the Postal Union, 25 cents a year extra for postage, or 75 cents. These new rates began with September, 1907.

We are sure that our hosts of readers and friends will feel we are doing the right thing in this, as they certainly would not want us to continue at too low a subscription price. At 50 cents a year, this 32-page copy would cost the subscriber only about 4 cents—two 2-cent stamps — surely cheap enough, when its valuable contents are considered. Why, "Dr. Miller's Question-Box" alone is worth many times the subscription price, to say nothing of all the other valuable departments.

It is our intention to keep the old American Bee Journal at the head of the procession, where it has been for so many years. And to do this we will need the hearty co-operation of all our readers. There are yet thousands of bee-keepers who have never heard of the American Bee Journal. Many of them are your neighbors; can you not show them what they are losing by not having it every month?

On another page we offer many useful things as premiums for getting *new* subscriptions. We will be pleased to mail sample copies to any names and addresses of bee-keepers that may be sent to this office. If every present subscriber would send in just one new subscription during this month, by Nov. 1st our list would be doubled. Why not do at least that much to help along a good cause—your own cause? We are ready to do our part—will you, dear reader, not join with us in putting the monthly circulation of the old American Bee Journal up to where it ought to be?

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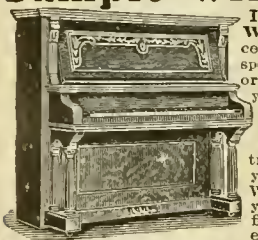

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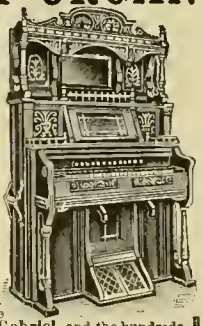

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PRICES: Untested queens, 75c each; six, $4; doz., $7.50. Select, untested, $1.00 each; six, $5.00; doz., $9.00.

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

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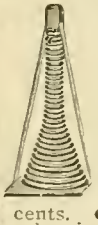

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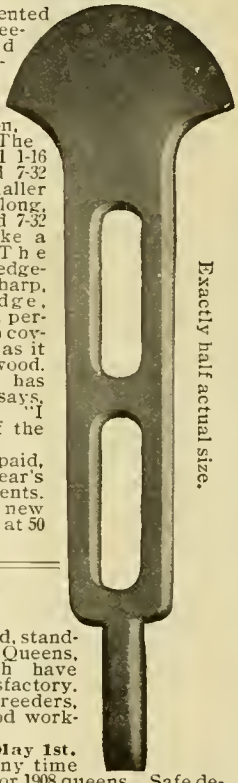

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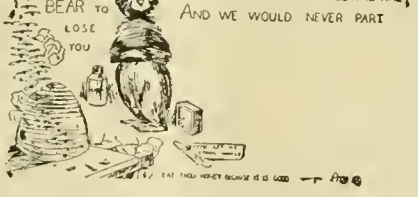
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We will Buy and Sell

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of the different grades and kinds. If you have any to dispose of, or if you intend to buy, correspond with us.

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CINCINNATI ...OHIO...

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Honey and Beeswax

CHICAGO, Oct. 23.—There is a good demand for the best grades of comb honey at 17 to 18c per pound. There is also less prejudice against the travel-stained combs than formerly. Amber grades range from 12 to 15c. Very little dark honey in the comb offered. Of extracted there is a fair supply: at present, prices range from 8 to 9c for the white, and 6 to 7 1-2c for amber and dark. Beeswax, 30 to 32c. R. A. BURNETT & CO.

DENVER, Oct. 28.—Comb honey available for car-load shipments has all been disposed of and shipped out of the State, but there is sufficient left to supply the local trade. We quote No. 1 white, per case of 24 sections, $3.25 to $3.50; light amber and No. 2, $2.75 to $3.00. Extracted honey, white, 7½ to 8 1-3c; light amber, 6¾ to 7½c. We pay 24 to 25c for clean, yellow beeswax here.

THE COLO. HONEY-PRODUCERS' ASS'N.

TOLEDO, Oct. 10.—Owing to large receipts of Western comb honey, prices have weakened. Fancy and No. 1 brings 16 to 16¼c in a retail way. Not much demand for lower grades. Extracted in barrels and cans remains firm, and brings 7½ to 8½c; amber, 7 to 7½c. Beeswax, 28 to 30c. As the season progresses producers are letting go of their crops, and not holding for high prices expected, and we look for the market to decline on all grades, as by Dec. 1 demand lets up. Producers having crops to sell will do well to market same promptly.

GRIGGS BROS. & NICHOLS CO.

PHILADELPHIA, Oct. 25.—The sales of honey have been quite active in this market during the past month. We quote: Fancy comb honey, wholesale, 17 to 18c; No. 1 white, 15 to 16c; amber, 14c. Extracted honey, water-white, 7½ to 8c; amber, 6½c; dark, 6c. Beeswax, 30c. We are producers of honey, and do not handle on commission.

WM. A. SELSER.

CINCINNATI, Oct. 15.—The receipts of both comb and extracted honey have fallen off considerably within the past two or three weeks, which is probably due to the shortness of the honey crop throughout the country excepting the far West. Many car-loads of Western comb honey have been placed upon this market, which has weakened the demand. Quote our fancy comb at 16 to 17 1-2c. The demand for extracted honey is exceptionally good. We are offering our fancy water-white extracted honey in barrels and cans at 10c; amber in barrels at 6 to 7 1-2c, according to the quality. For choice yellow beeswax, free from dirt, we are paying 30c delivered here.

THE FRED W. MUTH CO.

KANSAS CITY, Oct. 19.—The supply of comb and extracted honey is fair, and the demand good. We quote: No. 1 comb, white, 24-section cases, $3.50; No. 1 amber, $3.25; No. 2 amber and white, $3.00. Extracted, white, 8 1-2c; amber, 7 1-2 and 8c. Beeswax, 25 to 28c.

C. C. CLEMONS & CO.

CINCINNATI, Oct. 23.—The market is bare of white clover extracted. There is a good demand for white extracted honey, selling in cans from 9 1-2 to 10c. No. 1 white clover comb honey at 17c; alfalfa at 16 1-2c. Amber extracted from 6 to 6 1-2c. Market is good. Beeswax, 30c.

C. H. W. WEBER.

NEW YORK, Oct. 24.—There is a good demand for all grades of comb honey. Arrivals are now coming in more freely and in good-sized lots, and finds ready sale at good prices. Fancy sells at from 16 to 17c, No. 1 at 15c, No. 2, white, at 14c, dark and buckwheat at 12 to 13c. Extracted is also in good demand, with sufficient supply, principally from California. We quote water-white at 9c, white sage at 8 1-2c, light amber at 6c, dark and amber at 7 to 7 1-2c, according to quality. Southern and West India honey in barrels at from 70 to 80c per gallon, according to quality. Beeswax quiet at 29 to 30c.

HILDRETH & SEGELKEN.

SOLID GOLDEN QUEENS

Ready for delivery April 1st. Select Untested Queens, $1 each; Tested Queens, $2; Select Tested, $3. You can only get good Queens from the South in the early spring. Book your orders **NOW.**

H. M. PARKER, JR.
3Atf JAMES ISLAND, S. C.

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John Nebel & Son Supply Co., High Hill, Mo.

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WHITE ALFALFA and LIGHT AMBER

Extracted
Honey

in 60-lb., 10-lb. and 5-lb. Cans. Prices and Samples on application. FREE CATALOG OF COMB FOUNDATION AND BEE-SUPPLIES.

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Capons are cheaper and easier raised, bring double price on the market. Caponizing is easy, and soon learned. Set prepaid with "easy to use" directions, $2.50. Capon book free, tells how. Write for it today.

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Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 57 heights of farm and poultry fence. Catalog Free.

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Write us now for our Catalog and get low prices on good, honest,

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Fine Select Untested Queens $1; 6 for $4.50; 12 for $8. Tested Queens, $1.25; 6 for $6.50. Best Breeders, $3. Safe arrival guaranteed.

W. H. RAILS, Orange, Cal.

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Two Years for One Dollar

After a man succeeds in publishing a good journal, the next step is that of getting it into the hands of the people, of getting them to reading it, and becoming acquainted with its merits. This can be done by advertising, sending out sample copies, circulars, etc. All this costs money. I think I am safe in saying that for every new subscriber I have received I have paid out $2.00 in advertising; hence, I have often said that a publisher of a good journal could afford to send his paper one year free, for the sake of getting it into new hands. It would cost no more than other forms of advertising, and would be very effective, but, for obvious reasons, this plan could not be put in practice, but I am going to come as near to it as I can. I have between 200 and 300 complete sets of back numbers for the present year, and as long as the supply holds out I will send a complete set, and the rest of this year free to anyone who will send me $1.00 for the REVIEW for 1908.

THE REVIEW FOR 1907

It is impossible, in this space, to touch more than briefly upon a few points. Perhaps the leading feature of the year is a series of articles by E. D. Townsend. Mr. Townsend has been a specialist for many years, probably

Making More Clear Money

ont of bees than has any one else in Michigan. You may have read occasional articles of his scattered through tho different journals, but in the Review for the present year he began at the beginning and wrote in a consecutive manner—just as though writing a book. One article, showing the comparative cost of producing comb and extracted honey, is especially valuable just now when some are thinking of abandoning the production of comb honey.

Another man, whose experience and success have probably equaled Mr. Townsend's, Mr. E. F. Atwater, of Idaho, has furnished the Review with several articles the present year. If asked to give the keynote of these articles, I should say that it was the control of increase, or

Prevention of Swarming

Perhaps the most satisfactory plan was the use of the Dudley tube; a very simple device that not only prevents swarming, but there is no dividing, no shaking, no absconding, no sulking, and no scattering to other hives, but *big results.*

Another successful specialist, who has been a frequent contributor, is Mr. M. V. Facey, of Minnesota; and I think the most helpful feature of his writings is that of trying to tell his readers how to

Diagnose inside Conditions

of a colony by outside symptoms. Many bee-keepers think they must open every hive and take out all of the combs before they can know the condition of the apiary. It is wonderful, as you will admit after reading these articles, that an apiary may be mananaged with so little work—so little opening of hives.

A strong feature of the Review is its editorials. By actual count, 276 have appeared this year. They are helpful, inspiring, and encouraging—often the result of

Actual Personal Work

in the apiary. The Northern Michigan apiaries and their management are delightfully pictured with both pen and camera, and have brought forth more enthusiastic praise than any feature of the Review for several years. It is a record of *actual work* with hundreds of colonies—the failures and successes. Two editorials deal at length with "Simplicity in Hive Construction," showing how the Editor made hives and frames, and wired the latter and filled them with sheets of foundation, all the work being done at home, and at a low cost.

What the REVIEW has been in the past, it will be in the future—a real help to practical bee-keepers who are in the business to make money. Send me $1.00, and you will get the REVIEW for 1907 and 1908; and after you have read it these two years I feel sure that you will become a life-long subscriber. For $2.00 I will send you the REVIEW for 1907 and 1908 and also a copy of the book "Advanced Bee Culture." **W. Z. HUTCHINSON, FLINT, MICH.**

47th Year
No. 32

December, 1907

5c. a Copy

AMERICAN BEE JOURNAL

Louis H. Scholl, (See page 747)

A Pioneer California Apiary.
(Established by A. D. Pryal, in 1865, but owned for many years past by his son. See page 743.)

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED MONTHLY BY

GEORGE W. YORK & COMPANY

118 W. Jackson Blvd., Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the line of bee-keeping.

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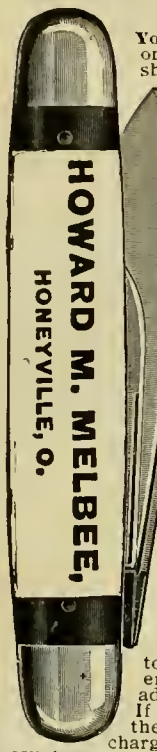

Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.25. With year's subscription, $1.50. **Free** for 5 new 50c subscriptions.

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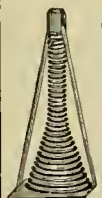

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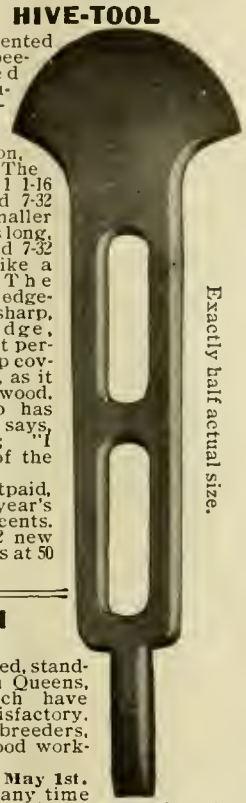

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American Bee Journal

Trade Notes
The A. I. Root Company, Medina, Ohio

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Gentlemen:

I received five of your AE52S–10 hives yesterday and find that I cannot make my own hives and supplies as cheap as yours and use the same quality of lumber. You can see by the head of this letter that if anyone can make hives cheaper than your prices or any of the so-called "trust hive" manufacturers, I ought to be able to do it, but using the same quality of lumber I cannot.

Yours very truly,
(Signed) John H. Bamberger.

☞ The above is a representative letter from the many we have to the effect that our hives and other supplies can be purchased cheaper than a local mill can possibly make them. Our enormous output enables us to reduce the cost to the minimum without sacrificing quality.

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GEORGE W. YORK, Editor | CHICAGO, ILL., DECEMBER, 1907 | Vol. XLVII—No. 32

Editorial Notes and Comments

Merry Christmas—Happy New Year

These are our wishes for all the readers of the old American Bee Journal when the approaching Holiday Season arrives. And that the fullest fruition of your highest hopes may be attained in 1908 is our further wish for you all.

Report on Bees and Honey for 1907

On page 764 will be found a report blank which we wish every one of our readers would fill out at once and mail to the office of the American Bee Journal, 118 W. Jackson, Blvd., Chicago, Ill. Then in the January number we expect to give a summarized statement for the benefit of all. We believe that a report made up of all the individual reports sent in, would be very interesting and helpful.

We do not expect to publish any names, so don't be afraid to give true and correct answers to the questions asked. The information as given by individuals will not go outside of this office and will be known only to the Editor. Only a summarized report will be given out or published.

If a satisfactory number of our readers will take hold of this effort we believe the result can be made of untold value to every bee-keeper who produces honey for the market. It may result in quarterly reports later on, which can be used to fix the right price on honey, beeswax, etc. We believe that if all who are interested in getting worthwhile returns from their bee-keeping, will help in this effort that we are now starting for the benefit of all, they will not regret it, but will be pleased with the information that may be secured for their guidance in the sale of honey.

At any rate, let us see what can be done now toward getting an idea as to the amount of honey produced the past season by the readers of the American Bee Journal; the condition of the bees this fall; and as to the clover and other honey-plant prospects for 1908.

If you do not wish to cut this number of the American Bee Journal, just copy the questions on any sheet of paper, answer them, and then mail to us as directed in the first paragraph.

Feeding Bees for Winter in Canada

The divergent views of writers on bee-culture is a source of perplexity to the beginner. A notable instance of this divergence of views occurs in the Canadian Bee Journal for October. F. P. Adams, speaking of the harm done by late disturbance, says:

"The only safe way to overcome this difficulty is to prepare for winter before the cool weather sets in, and our most successful apiarists recognize this fact by commencing their winter preparations at the close of the honey harvest. It is true that at this time the hives usually contain a lot of brood, but it is surprising what a quantity of syrup can be forced into the brood-nests by heavy feeding."

J. L. Byer says this: "While there is more danger of feeding too late rather than too early, experience has taught me that, for various reasons, it is not wise to do much feeding previous to September 20."

Then comes Editor Hurley, saying: "Mr. Byer, in his notes appearing in this issue, urges feeding in September. In our experience this would not be satisfactory. We prefer to feed when the last batch of brood has hatched. Wintering bees on empty brood-frames is dangerous."

Of Mr. Adams the editor says: "The pronounced success that he has had with his bees, makes anything he writes of great interest." Mr. Byer has for years conducted a department in the Canadian Bee Journel in a very able manner, and Editor Hurley may well be supposed to know something on the subject. After reading these three varying views from three authorities, and all under the same cover, is it any wonder the beginner should feel somewhat dizzy?

Specialty Not Best for Every One

As is well known, Editor Hutchinson had adopted for his slogan the cry, "Keep more bees!" and from the vigorous manner in which he has kept up the cry it is not strange if he has been understood by some as advocating an indiscriminate launching into the business on a wholesale scale by all and sundry. The following from The Bee-Keepers' Review, will show that such a view is erroneous:

"While the Review believes in and advocates specialty, it recognizes the fact that not every bee-keeper is in position to take advantage of it. To illustrate: A letter was recently received that read something as follows:

'You write so convincingly of specialty that I am sometimes almost tempted to adopt it, but I have a family of 5 children to support, and I dare not take the risk of abandoning my regular occupation for that of bee-keeping as my sole occupation. At present I have only 12 colonies.'

"This man would be the last one that the Review would advise to engage in bee-keeping as specialty. It would be almost as sensible to advise him to engage in the practice of medicine. A man whose experience is limited to what he has acquired in a year or two with only 12 colonies of bees is in no position to go into the business as a specialist. Bee-keeping is a profession that must be learned, the same as any other, before it can be followed extensively and exclusively. The men whom I advise to make of bee-keeping an exclusive business are those who

American Bee Journal

have learned it from A to Z, but continue, year after year, to fuss along with a single apiary of 75 or 100 colonies, lacking the confidence, or the 'nerve,' to drop some other business that is holding them back, and double their profits by enlarging their bee-business to the extent of their abilities."

Where to Put a Caged Queen

Some practise caging a laying queen for a time in the hive, so that no eggs shall be laid while she is thus caged. Little or nothing has ever been said as to any difference resulting from caging the queen in different parts of the hive, but according to G. M. Doolittle it makes a very material difference where she is caged. He says in Gleanings: "I find that, when she is at this point, the bees as a rule work right along the same, or nearly so, as they would if the queen had her liberty. In other words, when I cage a queen and put the cage near the top of the brood-chamber the bees seem to feel as if they were queenless, start queen-cells at once, or as soon as they would if the queen were taken from the hive, and lack in energy about working, very much the same as a queenless colony does. But cage her near the entrance, at the bottom of the hive, and work goes right along, often without any queen-cells being started at all."

The Two-Queen Plan

In Gleanings for Nov. 15, a good deal is said about having more than one queen in a hive, but the talk seems to be almost altogether about queens separated by excluder zinc. This seems a great disappointment to those who had hoped that, like E. W. Alexander, they could have two or more queens peacefully working side by side with no sort of separation. If queens must be kept apart, two in a hive will be little if any better than the Wells plan, about which so much was said a few years ago, especially in England, but about which almost nothing is said at the present time. In the Wells plan, the two colonies are separated by a perforated wooden partition.

One man reports that he can keep a young queen in the same hive with one or more old queens, but the attempt to keep more than one young queen in the same hive has always been a failure. How old a queen must be before she will dwell in peace with a younger queen is still an unsolved problem.

While we may still hope that good may come from the plan, there is no denying that the prospect does not look as bright as it did.

Study the Subject of Bee-Keeping

The editor of The Irish Bee Journal says:

"Our correspondence during the past few months shows that the number of bee-keepers who know little or nothing of their business, is not small, either here or in Great Britain. We strongly advise all such to devote some time to study during the winter months. A good guide, a volume or two of a reliable bee-periodical, will well repay the cost if carefully read. Naturally we recommend the 'Irish Bee Guide,' and the Irish Bee Journal for the purpose, not only because we believe in them ourselves, but also because hundreds of experienced bee-keepers have testified that the two publications named are hard to beat. Whatever the book or the paper to be selected, we think it safe to say that any bee-keeper who is not sufficiently interested in the subject to read it up, would be wiser to go out of the business altogether."

To all of which we give a hearty "Amen," even to endorsing the book and periodical mentioned, and also making application of the general sentiment to American bee-keepers; and would especially commend a careful reading of the last sentence of the clipping by any one who is yet without *both* a book and a paper about bees. Of course "in this locality," the American Bee Journal is supposed to be an excellent publication, but if you think you can find something better you have our gracious permission so to do; only be sure to get *some* book and *some* paper, and spend some time during the winter in reading up so as to be an intelligent bee-keeper, if you are not already in that class.

Reading Bee-Literature

The time for reading up on bee-literature will soon be here. What with the bee-papers and many good bee-books, there is no reasonable excuse for everybody, who desires, not knowing a great deal about bees and their cure—theoretically, at least.

The advice is given, that of the two—the bee-papers and bee-books—the book is the first that should be read by the beginner, and that is good advice, too. Of course, *we* say, get *both* book and paper. For $1.50 or $1.75 the very best bee-book can be had with the American Bee Journal a whole year. Surely it must be a very small business that would not warrant an outlay of less than $2.00 for the best obtainable information concerning it.

In these days of strenuous competition, a man or woman needs to know all that it is possible to know about any business in which he or she embarks. And so one must invest in some good literature relating to the work which he expects to do.

Parcels Post in the United States

Just now there is a revival of interest in this matter from the fact that the Post Master General is championing a movement in the direction of greater facilities for sending through the mail articles of merchandise. Americans are somewhat given to consider themselves as in the van of progress, but so far as cheap carriage through the mails is concerned, or indeed so far as its carriage in any way in small parcels is concerned, they are sadly in the rear.

Is there not something wrong with post-office regulations that allow a package to be sent to Germany for less money than required to take it 5 miles to the next post-office? In the British Bee Journal, W. J. Farmer reports what he considers a postal curiosity, owing to regulations on this side. He mailed 3 pounds of honey at his local post-office to be sent to America, paying 50 cents thereon as postage. A few days later he received notice from the postmaster at Liverpool, saying that although the package might be sent to any part of Great Britain, honey was not allowed in the mail to the U. S., but if he would send 75 cents more the package would be sent by a semi-official company. He promptly sent the additional 75 cents, and was surprised a few days later to have it returned to him with the information that the 3 pounds of honey would be sent for the 50 cents paid at the beginning, because they had discovered that it was comb honey and not extracted honey put up in a tin can!

The Post-Master General has the best wishes of the people, but whether he can accomplish anything is somewhat problematical so long as the U. S. Senate is controlled by the express companies rather than by the people.

An Invitation to Readers

As the time of longer evenings is again arriving, we would like to invite our readers to send in their reports of the season of 1907 with the bees.

It may be, also, that some have been trying experiments, or have had some things to develop that would be of interest to all. If so, we would like to have such write out their experiences for publication, and send them in. No doubt what you have read in the American Bee Journal has been a great help to you, so why not *you* add your mite to the general fund of information about bees?

It may often happen that your way of doing things may seem very simple to you and of not sufficient importance to describe in print. And yet, such may be of great interest and help to others. Why not let us have it for the columns of the old American Bee Journal?

World's Pure Food Show

This great exposition opened Nov. 16 and continued up to and including the 23d. As previously announced the National Bee-Keepers' Association had an exhibit of honey which was in charge of General Manager France. It was a most excellent display, containing honey from some 15 States and 5 foreign countries, all arranged in artistic form. It was a great attraction, and should help to popularize the use of honey, as there were visitors from all over this country.

We expect to have more to say about it next month, as the show is still in operation while we are writing this item.

The Illinois State Convention

This was held in Springfield, Ill., Nov. 19 and 20. The attendance was fully as large as in any year for some time. We had the pleasure of attending also. It was a good meeting. The report will be published in pamphlet form and mailed to the members. One of the

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most important subjects discussed was that of securing for Illinois a foul-brood law similar to that of Wisconsin.

The election of officers for the ensuing year resulted as follows: President, J. Q. Smith, of Lincoln, 1st Vice-Pres., G. W. Cave, of Kirkwood; 2d, W. H. Hyde, of New Canton; 3d, A. L. Kildow, of Putnam; 4th, S. N. Black, of Clayton; and 5th, C. P. Dadant, of Hamilton. Secretary, Jas. A. Stone, Rt. 4, Springfield. Treasurer, Chas. Becker, Pleasant Plains.

We are told that the Illinois Bee-Keepers' Association is the largest of all the State bee-keepers' organizations. Illinois also has the largest number of members of any State in the National Association. But the memberships in both organizations should be greatly increased in Illinois. The annual dues of $1.00 will pay for one year in both the State and the National. Send the dollar to the Secretary Jas. A. Stone, Rt. 4, Springfield, Ill., and he will forward one-half the amount to the National. You will then receive a receipt from both associations. Of course this is meant for our Illinois readers. We wish that every bee-keeper in the State were a member of the two organizations. It is a good time to join if not now a member.

Naturally, being located in Illinois, we have considerable pride in seeing this State lead; and yet we would rejoice to see every State advance all along the line in everything apiarian.

Index for 1907

In this number appears the annual index for 1907. It shows what a great variety of topics have been considered during only one short year, in the American Bee Journal. To all who have preserved their copies as received, the index will be of great value for reference. It is a very complete index, as will be found on examination.

Canadian Bee Journal Changes

With the October number of the Canadian Bee Journal, now in its 15th year, come some notable changes. It has been sold to James J. Hurley, of the Hurley Printing Co., a practical printer and enthusiastic keeper of bees, a combination which ought to fit him out well as editor and publisher. The publication has no longer any connection with the bee-supply business, and has been increased to 40 pages. Success to it and its new editor.

An Old Apiary in California

The apiary shown on first page was established originally in 1865 by A. D. Pryal, as mentioned elsewhere in this issue. It is located at the base of the hills near the southern boundary line of the city of Berkeley, Calif., and lies directly opposite San Francisco. It was never conducted as a large commercial apiary, as is so often the case in that State; rather it has been a home bee-yard, furnishing delicious honey for a large family. In years of a good honey-flow the surplus has been disposed of at a fair profit, thus augmenting the proceeds of the place, which has been mainly run as an orchard and small fruit ranch.

In 1876, Mr. Pryal turned the apiary over to his son, William A., who has continued to care for it ever since. None of the original hives are in use, though some portions of them have been utilized in the construction of some of the hives shown in the half-tone.

As may be noted, the photograph was made in the winter, and shows the way bees are usually wintered in California. Sometimes the supers are removed at the approach of winter; at other times they are not. It is found that with good, strong colonies it is easier and cheaper to protect the combs from moth-worms, etc., by leaving them on the hives, rather than by removing them and storing them in the honey-house, or other place.

The trees shown are cherry, English walnut, apricot and oranges, the latter being the dark masses in the middle at the right.

Japanese Bees

In l'Apiculture Nouvelle, is given an account of Japanese bees. They are much like Italians, although a little smaller. Only a single colony had been seen by the correspondent, but that showed a very peculiar trait. The entrance guards acted also as ventilators, *with their heads toward the entrance.* Was that a freak performance of the occasion, or is it the rule with bees of Japan?

Uncapping-Fork

For uncapping purposes there has been in use in Europe for some time an implement that has been so highly praised that one has wondered why such a good thing has not been introduced into this country. In appearance it reminds one just a little of the clippers used to shear horses, or the smaller clippers used by barbers, if one may judge from the illustrations. An article by C. P. Dadant in l'Apiculture Nouvelle, gives good evidence that he has given the implement a pretty thorough trial, and one who reads the article is hardly likely to care for any further trial. To mention no others, one objection is that instead of making a clean cutting of the cappings, there is little more than a

scratching, leaving the cappings partly attached to the comb, to be thrown away by the bees, some of the small particles of wax clogging the screen of the extractor, or falling in the honey—a real loss of value in wax.

But perhaps others have found the uncapping-fork shown herewith to be of value to them.

Bee-Keeping in Australia and Here

Upon reading reports from Australia, some have cast longing looks in that direction. That some longing looks are directed in the opposite direction is shown by the following wail in the Australian Bee Bulletin:

"Would not it be nice if Australian bee-keepers had the beautiful clover-fields of Great Britain and North America, suitable for grazing as well as bee-keeping? When the honey-trees are cleared away to make wheat-fields, good-by to bees."

Bees Attack Passengers

Mr. H. W. Gander, of Pennsylvania, clipped the following "special" from the Philadelphia Record of Nov. 7:

"A swarm of bees escaped from a hive that was being loaded on a train at Tyrone to-day, and attempted to settle on the waiting passengers, causing a panic and a dash for cover.

"The bees then tried to get in the train in a body; but the passengers quickly closed the windows, while the trainmen, with overcoats over their heads, kept many of them away from the doors.

"A number of persons were stung, and the swarm was later captured and sent west."

"The Golden Bee"—Wonderful!

Hon. Eugene Secor, of Forest City, Iowa, sends us the following regarding a newspaper clipping which he also enclosed, the clipping being dated Oct. 18, 1907, and taken from the Iowa State Register and Farmer:

DEAR MR. YORK:—Am I so far behind the times that I haven't heard of the "Golden bee" and its propagation—or evolution—as described in the enclosed clipping from the "Iowa State Register and Farmer?" I must confess that I haven't read of this $25 to $100 bee.

I'm not criticising the editor, who is a good friend of mine, but just wondering where the wonder is advertised. That's just the bee I should have had this year—one that would have given me 185 pounds of honey, regardless of the weather! I want her bad. I've a

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notion to advertise in your "want" column.

Yours in need of honey,

EUGENE SECOR.

The clipping referred to reads thus:

"THE GOLDEN BEE."

"A subscriber from Story county writes: 'I have been reading about the golden honey-bee, and I have been trying to know more about it.' Will you give through the columns of the Register and Farmer some information of this variety of honey-bee?'

"The golden bee was evolved from the Italian bee, which was the lightest of any in coloring. A number were imported to this country some years ago and the experiment of producing the really golden creature was begun. The Italian bees were kept apart from others and a careful process of selection was inaugurated. Careful watch was kept, and when the queens were born the lightest-colored one was isolated. She was then introduced into a hive, from which she was sent out to mate. When she returned and began laying eggs the vigil was all the more closely kept. Day after day the bees were visited, and when the young queens emerged from their cells the lightest colored was often selected and isolated.

"This process was repeated over and over again during a summer, and then for summer after summer years went on and the experimenting apiculturist saw his bees losing the leathery bands which encircled them, and assuming a lighter color.

"The golden bee is actually golden and is one of the rarest of bees, and it is as gentle as it is beautiful. So rarely does it sting that it has been called the 'non-stinging bee.' It may be handled almost with impunity. Furthermore, it is an amazing producer of honey, one hive having collected annually about 185 pounds of the golden sweet. As to the value of the queen, they sell at prices ranging from $25 to $100 apiece."

This is truly wonderful! And to think that bee-keepers didn't know about it in time to get 185 pounds per colony the past poor honey season! Well, there are more seasons coming so there will be time yet to invest "$25 to $100 apiece" for a few queens that turn out the golden bees that produce the gold through their honey!

"Langstroth on the Honey-Bee"

One of our readers wrote us as follows recently about this bee-book, originally written by Rev. L. L. Langstroth, the Father of American bee-keeping:

EDITOR YORK:—The book, "Langstroth on the Honey-Bee," which you sent me, arrived all O. K., and after reading it over I must say I am exceedingly well pleased with it. I could not, had I been there, with all the books before me, suited myself better. The book is so interestingly written, and the instructions are so plain, that one as little versed in bee-culture as I, can not help but understand. And with what a difference I now read the bee-papers, for I now understand what they are talking about.

Is it not wonderful, how Mr. C. P. Dadant quotes from old writers, what they say on certain subjects, and then what Mr. Dadant has seen, all brought down so nicely? I don't see how a better book for the beginner could be written.

Now allow me to thank you cordially for the interest you have shown.

T. T. ARMSTRONG.

Hiawatha, Kans., Nov. 20.

The book referred to by Mr. Armstrong certainly is a valuable one. It contains over 500 pages, and was revised this very year, so it is fully up-to-date. We mail it for $1.20, or with the American Bee Journal one year—both for only $1.45. No mistake will be made by any one who gets this book.

Wedding Bells in Missouri

Oct. 31, 1907, Mr. John C. Stewart, of Hopkins, Mo., and Mrs. Henrietta Larch (widow of the late Dr. Larch, of Savannah, Mo.) were married. Mrs. Larch was a popular lady where she lived, and owned a 160-acre farm, on which is a $500 bee-house, excellent orchard, etc. Mr. Stewart is one of Missouri's best-known bee-keepers. Our congratulations are hereby extended to the happy couple.

The Chicago-Northwestern Convention

By the time this copy of the American Bee Journal is in the hands of its readers another annual convention of the Chicago-Northwestern will have been held. At this time (Nov. 23) the prospects are for a splendid meeting. We hope it may be such. Next month we hope to be able to give a good report of it in these columns.

The Michigan Convention

The Michigan Bee-Keepers' Association will hold its annual meeting at Saginaw, the first session being on Wednesday evening, Dec. 18 and the last one on Friday afternoon the 20th.

Headquarters will be at the Sherman House, at which the special rate of $1.50 per day has been secured.

Among the speakers will be R. F. Holtermann, of Brantford, Ont.; L. A. Aspinwall, of Jackson, Mich.; E. D. Townsend, Remus, Mich.; W. J. Manley, Sandusky, Mich.; and W. Z. Hutchinson, of Flint, Mich.

An exhibit of honey and wax will be made, and premiums are as follows:

Best single section of comb honey—one Advance Bee-Veil.

Best 6 sections of comb honey—500 Lewis sections.

Best 5 pounds of beeswax—one Hilton hive.

Best 5 pounds of extracted honey—Choice of one year's subscription to the Bee-Keepers' Review, or a copy of "Advanced Bee Culture."

Best suggestions or plan offered to increase the membership to Association. Same to be in writing and not more than 150 words—one copy de luxe edition of the "A B C of Bee Culture."

For further information, write to the Secretary, Elmore M. Hunt, of Redford, Mich.

Tennessee Fair Apiarian Premiums

The Tennessee State Fair held the last week in September at Nashville, was a decided success, in every respect, and was universally pronounced the greatest Fair ever held in the South.

In the Apiary Department there were some fine displays of comb and extracted honey, wax, bees, implements, etc. Mr. Leslie Martin gave a daily live-bee demonstration in a wire cage, and this feature attracted a great deal of attention, as it was something new here. The following awards were made:

Best 10 pounds extracted honey—1st, J. M. Davis, of Spring Hill; 2d, J. M. Buchanan, of Franklin; 3d, Chip Henderson, of Murfreesboro.

Display of extracted honey—1st, J. M. Davis.

Best case of comb honey—1st, J. M. Buchanan; 2d, E. B. Buchanan, of Franklin; 3d, Ira Moore, of Nashville.

Display of comb honey—1st, J. M. Buchanan.

Display of beeswax—1st, J. M. Buchanan; 2d, Mrs. W. M. Joseph, of Nashville.

Nucleus of dark Italian bees—1st, J. M. Davis; 2d, J. M. Buchanan; 3d, Leslie Martin, of Lebanon.

Nucleus of golden Italian bees—1st, J. M. Davis; 2d, Mrs. W. M. Joseph.

Nucleus of Caucasian bees—1st, Leslie Martin; 2d, J. M. Davis; 3d, J. M. Buchanan.

Nucleus of Carniolan bees—1st, J. M. Davis.

Best display of bees, bee-products, implements, etc.—1st, J. M. Davis; 2d, J. M. Buchanan; 3d, Mrs. W. M. Joseph.

Mr. Fred W. Muth, of Cincinnati, was the Judge in this department.

J. M. BUCHANAN, *Supt.*

"Gus Dittmer Company"

Beginning with Nov. 29, 1907, the business conducted for so many years by Gus Dittmer, of Augusta, Wis., will be run under the name of "Gus Dittmer Company," which was recently incorporated under the laws of Wisconsin, with a capital stock of $20,000. Gus Dittmer is the president and treasurer; Mrs. Jennie Dittmer, vice-president; and Fred M. Dittmer, secretary. This is a wise move, and we trust that the Gus Dittmer Company may continue to be even more successful than was its predecessor.

Result of the National Election

The following were elected last month as officers and directors of the National Bee-Keepers' Association:

President—Geo. E. Hilton, Fremont, Mich.

Vice-President—George W. York, Chicago, Ill.

Secretary—W. Z. Hutchinson, Flint, Mich.

General Manager and Treasurer—N. E. France, Platteville, Wis.

Directors—(in place of three expiring)—Wm. McEvoy, Woodburn, Ont.; E. W. Alexander, Delanson, N. Y.; and R. C. Aikin, Loveland, Colo.

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Conducted by J. L. BYER, Mount Joy, Ont.

Report of the Ontario Convention.

The Ontario Bee-Keepers' Association met according to program, in Toronto, on Nov. 13, 14, and 15, 1907. Despite the fact of the bee-keepers having passed through a poor season, the attendance was good, and intense interest was manifested throughout the different sessions.

The Vice-President's Address.

In the absence of Pres. R. H. Smith, Vice-Pres. Miller occupied the chair. Mr. Miller makes a good presiding officer, and during the different meetings conducted the proceedings with tact and courtesy, to the satisfaction of all present. In his address he referred to the short crops, but thought that the present high prices would in a measure make up the deficit. Specialist bee-keepers should look upon their calling as a dignified one, and should aim to place the business upon a higher level.

He referred to the fact that the Minister of Agriculture for Ontario—Hon. Nelson Monteith—was ever ready to help along towards this desired end, and that as bee-keepers, we owed his Department a debt of gratitude for help already received.

The new system of having 6 inspectors instead of one, he believed to have been entirely satisfactory, and the closer union of the Association with the Department of Agriculture, by having Mr. Hodgetts of the Department, as Secretary of the Association, had proved to be a decided advantage to all concerned.

As regards the prospects for the future of bee-keeping, the speaker regarded them as being very bright. The population of Canada, particularly in the West, was increasing at an enormous rate, and for some years at least we would not need an export market, as the home trade would take all the honey we could produce.

Mr. Couse, in the discussion that followed the President's address, endorsed all that had been said, and referred to the fact that better honey was being produced than was the case some years ago; in fact, "no better honey was produced in the world than the product of Ontario apiaries." This desirable state of affairs had largely been brought about by the good work of the Ontario Bee-Keepers' Association. The honey industry is a profitable one in many ways, as the success of the clover, fruit-growing, and other industries were largely dependent upon the bees.

Distribution of Honey.

W. A. Chrysler, of Chatham, read a paper on "Distribution of Honey." The speaker had lately arrived home from a trip through the Northwest, and from observations there, relative to the honey market, he was more than ever convinced of the advantages of co-operation among bee-keepers for the handling of their product. Mr. Chrysler lives in a locality where co-operation has lifted the fruit-growing industry out of the rut and placed it on a highly profitable basis and it is only natural that he should be an enthusiast on this system of marketing. While nearly all were in favor of the idea, yet some thought that it was not likely that much would be done along that line as long as the production was limited, and prices as high as at present. In other words, history would repeat itself, and, like the fruit-growers, dairy-men, and others, the bee-keepers would not be actively concerned about co-operation until actually forced as a matter of protection to do so. However, a committee was appointed to look into the subject and report at the next annual meeting.

The President thought it good policy to send some honey to the Western Province even in poor years, in order to hold the trade for years when there was more honey to be disposed of. This year, although all the honey produced could have been disposed of easily in Ontario, yet the Middlesex County Association had shipped part of their crop West, with good returns.

Price of Good Honey.

At this stage of the meeting a discussion arose as to what good honey should be sold for. The view entertained by some that extracted honey should retail for 15 cents, was in the judgment of some members a little too high in years of good crops, as there was a danger of foreign honey being shipped in. Even this year, in the early part of the season, an offer was made from Colorado to lay down alfalfa honey in Toronto at 10½ cents; and honey from Jamaica, for manufacturing purposes, was offered at a surprisingly low figure. It was thought easier to keep foreign honey out than to oust it after having once gained admission to our markets.

Mr. Storer, of Lindsey, who had lately returned from Scotland, spoke of seeing 1200 acres of raspberries near one small town, and the entire product was sold under the co-operative system to the complete satisfaction of the growers.

Mr. Hodgetts, Secretary of the Ontario Bee-Keepers' Association, at the invitation of the President, also spoke along the lines of co-operation. From his connection with the fruit-growers' association he had intimate knowledge of its workings, and he had no hesitation in saying that the system had been a huge success with the members of that body. While the bee-keepers of Ontario might not be ripe for co-operation, yet he saw no reasons why it would not work out satisfactorily if given a trial.

The Honey Exchange Committee came in for a good deal of praise for the good work done, the only difference of opinion among members present being that some thought the report should be sent out earlier than was the case last year. It was pointed out that the reports covered a large territory, and, all things considered, it was hardly possible to get out a fairly accurate estimate of crop conditions much earlier than has been the case in past years.

Requeening Colonies.

In answer to the question, "When shall we requeen?" Mr. McEvoy said more requeening should be done; that some queens were good at 4 and 5 years old is no argument against the advisability of requeening. Some horses are good at 17 years, but more at 7; some men at 70, but more at 17. The same principle applied to queens.

Mr. Holtermann wished to refute the idea that a queen lays a given number of eggs and then dies; that the principle is contrary to all animal nature, poor wintering and other causes largely determining how long a queen shall be prolific.

Mr. Dickensen would requeen every 2 years, but the majority of the members would prefer to requeen whenever a poor queen was noticed, rather than practise a wholesale method, perhaps often destroying some better queens than their successors would prove to be.

Wax-Presses.

Relative to a question on wax-presses, those who had tried the Hershiser admitted that while more wax could be obtained, yet the quality was not so good as that taken with the Hatch-Gemmill press. Later on during the convention, Mr. Sibbald by means of a model, explained the workings of a press (one member called it a cross between the Gemmill and Hershiser presses) which he thought superior to either the Hatch-Gemmill or Hershiser. (Cuts of this press with Mr. Sibbald's explanations will appear in the printed annual report of the convention.)

Foul-Brood.

Miss Trevorrow, of Meadowvale, read a paper on "Foul Brood." She had no practical knowledge of the disease, and her paper (an admirable one) was largely along the lines of prevention rather than cure. Carefulness and neatness in the apiary was touched upon as well as the necessity of using the wax-press freely to melt up all old combs. The inspectors had many difficulties beyond their control to contend with, and it was decidedly necessary that bee-keepers should heartily co-operate with the inspectors if the dread disease is to be eradicated.

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Miss Trevorrow is a highly successful bee-keeper, and is thoroughly informed in all lines of the pursuit. A hearty vote of thanks was accorded her for the excellent paper presented.

EXTRACTED HONEY PRODUCTION.

To the disappointment of all present, Mr. Alexander, owing to ill health, was not able to attend the convention. However, a paper prepared by him was read by Mr. Sibbald. Mr. Alexander recommended the radical course of extracting the honey from the brood-nest and feeding back, during the early part of the honey-flow. A great difference of opinion was expressed in the discussion that followed, and while a few endorsed the idea, the majority would not practise it. All were agreed that it was advisable to get as much brood as possible in the brood-nest previous to the honey-flow, yet the work and risk involved in Mr. Alexander's system was thought to be too great.

In connection with Mr. Alexander's present position of stripping the brood-nest of practically all the honey, it is interesting to compare the stand taken by him a little over a year ago on this question. In answer to a questioner as to how to avoid having light colonies in the fall, Mr. Alexander stated in Gleanings, Jan. 1, 1906 issue, that they formerly had this trouble to contend with, and he gave the following advice:

"In order to avoid light colonies in the fall, let your bees fill up their hives with the first honey of the season, and see that they have plenty of it capped over before you put on your extracting supers."

His present position makes it clear that he wants little honey in the brood-nest, and it is hard to understand what he really meant in the quotation I have given. Certainly in the majority of localities, if his advice were followed, vast apiaries would be badly demoralized by swarming, if supering were delayed so long.

COMB-HONEY PRODUCTION.

Mr. S. D. House, of New York, gave what was conceded by all to be one of the best addresses ever listened to by the Association. His talk was much on the same lines as at Brantford last year, and was business from start to finish. His methods of using the divisible brood-chamber in the production of comb honey (the theme of his address) were explained in a very lucid way to the delight of all present, and at least a few members were "almost persuaded" to adopt a hive along the lines of the one used by Mr. House.

FOUL BROOD AND BLACK BROOD.

The 6 inspectors of apiaries gave their reports, and out of some 400 apiaries visited, about 50 percent were found to be diseased. Of course, this represents apiaries where disease was suspected, and the percentage of diseased colonies throughout the Province is by no means as large as the figures would indicate. Some black brood was discovered, and those who had had experience with it dreaded the disease more than the ordinary foul brood.

Resolutions were passed asking that Quebec Province enact a foul brood law, and that the management of the different fairs at Toronto, London, Ottawa, and other cities, give demonstrations in methods of bee-keeping and honey-production, descriptions and illustrations of the natural history of the bee, etc.

The following officers were elected for the ensuing year: President, F. J. Miller, of London, Ont.; Vice-President, W. Couse, of Streetsville; Secretary, P. W. Hodgetts, Parliament Bldg., Toronto; Treasurer, Martin Emigh, of Holbrook, Ont.

The next place of meeting is Toronto.

Conducted by EMMA M. WILSON, Marengo, Ill.

When to Cellar the Bees.

The time to take bees into the cellar is always a catchy problem. Last year ours were taken in Nov. 19th. But they had no good flight after the 10th, and it would have been much better if they had been carried in *then*, as 9 days of confinement outside in freezing weather with no chance to fly afterward is perhaps harder on them than three times as long in the cellar. If they could have had a flight by staying out a week or two longer, it would have been better to have left them out. But how can one tell in advance? As a matter of fact, there was no weather warm enough for further flight, so it was well they were not left out later.

This year, again, bees flew pretty well up to November 10, and then came cold weather, the thermometer going down once as low as 11 degrees above zero. A week of this weather made us quite uneasy, and it was a question whether it were better to run any further risk, or to take the bees in without waiting for another flight. Fortunately, just about the time we had nearly decided to take them in, the weather-man was obliging enough to send us a brand of weather to make our hearts glad. Nov. 18 the thermometer went up to 53 degrees, and the bees had a glorious flight. That was yesterday, and they would have gone in today only it's too warm; but the first day that it is cold enough, in they go.

Feeding Bees through a Sponge.

The following is given by Mary E. Akers, in Gleanings in Bee Culture:

"When bees are confined in a cage or box the under side of which is of wire-cloth, they can be fed (as some have already suggested) with honey as long as their tongues can reach it. My way is to fill the receptacle with syrup; press a sponge down in it, and all the syrup will be appropriated—you would be surprised to see in how short a time, as the sponge presses against the wire, and the weight of the bee-box of whatever kind holds it down. It works finely."

Now, isn't that bright? And a woman at that. But why confine that kind of a feeder to bees confined in a box? If a sponge sucked out at the top will empty feed out of a dish in which it is placed, the device may be used for feeding bees not confined, and the feeder may be placed in a hive or out in the open.

Take a box of convenient size and have a cover of wire-cloth that may be fastened on. Put in the box a dish to hold the feed, the dish being nearly or quite as deep as the inside of the box. Put in the feed a sponge of such size that when filled it will be deeper than the dish, but will be kept down in place when the wire cloth cover is fastened down. Now, why wouldn't that make a good feeder?

Confection of Tomatoes and Honey

Boil the tomatoes and pass them through a fine sieve. Add twice the weight of honey, skim well, and when the confection is almost done, add lemon.

Section-Honey in a Bee-Tree—Honey One Bee Gathers in Its Lifetime.

DEAR MISS WILSON:—I've just received and read the last American Bee Journal (No. 30), which in many ways is of especial interest to me. Those two women—one in England and one in Africa—who had swarms alight on their heads were pretty brave, and had their nerves under remarkable control. They were certainly in great danger of death connected with frightful suffering.

You may be interested in hearing about a novel sort of a bee-hive that the poet, Mr. Dodge, has on his place at Morristown, N. J. A swarm some years since made their home in the hollow trunk of a beautiful old tree near the house, and the bees have remained there and thrived to the great enjoyment of the Dodges, who, in the early days of their sojourn, fed them sugar generously, as one inducement to permanent occupancy. The first year there was no surplus honey obtained, but the

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next spring our poet had a doorway cut in the tree *above* their brood and storage. Through this he inserted some pound section frames or boxes, and the bees filled them with honey. Every year since, the bees in this way have kept the family supplied with a very fine grade of comb honey. This is a true story, and well authenticated.

Mr. Dodge is much interested in bees, and reads very widely about their ways. He has somewhere found, as he believes, the reliable statement that a bee furnishes in its lifetime just one single tablespoonful of honey. In other words, the limit of the life-work of a bee is a tablespoonful of honey.

I, myself, do not quite see how these figures are reached. There is such a difference in localities and in seasons as to the honey crops, and also such a difference in bees, that it seems as if accuracy in averaging up would be an extremely difficult task.

I would greatly enjoy hearing from you on this subject.

FRANCES E. WHEELER.

Chazy, N. Y.

There is nothing new about bees having a home in a tree. Plenty of people have had bees in trees, and they are not poets, either. But this is probably the first case on record where section-boxes were given to bees in a tree, and the idea seems as poetical as novel.

You are right that it would be an extremely difficult task to make anything like an accurate estimate of the amount of honey that may be considered the life-work of a bee to gather, there are such varying factors in the problem. Take a bee that is born so late in the season that all gathering ceases just as it becomes old enough to be a fielder, although it has spent its 16 days at work in the hive. The next spring it commences at housework again, using the honey stored by other bees for its own use and to feed the babies, and it may never gather any.

But the problem is an interesting one, and there may be no harm in taking average conditions and doing some little figuring to see whether there is justification for a spoonful to a bee. As most of the data we have with regard to the storing of honey are in pounds and ounces, the first thing is to know the weight of a tablespoonful of honey. If honey is thick enough, half a pound or more may be lifted at once with a spoon, but what is meant is probably an even, not a heaping, tablespoonful. To obtain this a half-pound of honey in a bowl was put into a small kettle of water and set over the fire until the honey became nearly as thin as water. Then it was measured with an ordinary tablespoon, and there were just 12 spoonfuls, or 24 spoonfuls to the pound. It's worth something to know that, isn't it? That makes a spoonful 2-3 of an ounce.

Take a good colony in a good season and suppose it stores 100 pounds of surplus. The amount of honey it will consume for its own use in the course of a year is variously estimated at 100 to 200 pounds, the higher figure being probably nearer the mark. Let us call it 200, and adding the surplus of 100 pounds to it we have 300 pounds as the year's gathering. If there are 24 spoonfuls to the pound, and if each bee gathers a spoonful, then it will take 24 bees to gather a pound, and to gather 300 pounds will take 300 times 24, or 7,200 bees. But we know well that in a colony strong enough to lay up a surplus of 100 pounds there will be many more than 7,200 fielders in the hive at one time, to say nothing of several generations of them. Evidently a spoonful to a bee is an overestimate.

Let us approach the problem from another direction: A strong colony will gather all the way from nothing up to 5, 10, and in extreme cases 20 pounds a day. It is perhaps not far out of the way to say that a very good day's work for a colony strong enough to have 30,000 fielders is 5 pounds. The life of a bee in the working season is about 6 weeks, or 42 days. The first 16 days it spends in the hive, leaving 26 days for field-work. If 5 pounds is a day's work for 30,000 bees, in their life-work of 26 days, they would gather 130 pounds, or 2080 ounces. Divide that 2080 ounces among 30,000 bees, and it gives over 1-15 of an ounce, or 1-10 of a spoonful for each bee. That is likely more than the average, although many a bee probably exceeds it.

Even at that it's wonderful to think of anything like a tenth of a spoonful being gathered by each bee. Take a spoonful of honey and look at it, and think of its being gathered by 10 bees. Why, the whole 10 could drown in it, so each bee has gathered enough honey in which it might drown itself. And yet of late there has been some talk of bees being lazy! Anyway, if they do spend some time resting, they must make up for it when they are at work.

Glimpses of Southwestern Apiculture, and a Sketch of One of Its Leading Representatives—Louis H. Scholl

BY ARTHUR H. MCCRAY.

Three years ago the writer first met the subject of this sketch—Louis H. Scholl—at the Ohio State University. An acquaintance was formed, which, like many college acquaintances, was more abiding than simply during college life. After Mr. Scholl returned home from college at Columbus, Ohio, in the spring of 1905, a correspondence was kept up, and the writer grew more and more anxious to see the great State of Texas, with its people and vast extent of territory, some of which he certainly thought must be a bee-keepers' paradise.

At last a letter came with a message from the Sunny Southland, which was irresistible. Such phrases as, "20,000 pounds of honey and scarcely any yet taken off," "a month's vacation before going back to college will do you good," "I will give you a chance to see something of Texas," etc. Such alluring and tempting offers were irresistible, and the result was that the fall of 1906 found the writer enjoying Southern hospitality to the full. Frequent long drives to the dozen and more apiaries scattered here and there over the gently rolling slopes of Comal and adjoining counties will never be forgotten. The vast extent of mesquite (mee-skeet) pasture, and the yellow expanse of broomweed, the acres and acres of cotton, with Mr. Scholl's enthusiastic remarks, were all-sufficient to make one for the time being an enthusiastic bee-keeper, and make him feel like going into large-scale bee-keeping himself, forgetting all about college duties, and plans for the future.

Upon learning that Scholl had resigned his position at college, and refused a $2,000 offer to go to East Africa, one can see without difficulty that here indeed is a man whose heart and soul are with Texas, and who believes in bee-keeping to the full extent, as a profession. One needs only to hear Scholl digress on bee-keeping and its pleasures to become enthused.

And so the writer believes that a few facts concerning this leader in the South, such as he was able to glean while there, will be of general interest, and perhaps contribute somewhat to giving "honor to whom honor is due."

The subject of this biographical sketch, while yet young in years, is old in experience, and certainly has left an enviable record behind him already, and a still more brilliant prospect for the future can but be his.

Born at Hunter, Tex., October 24, 1880, of German parents, and still residing in Texas and expressing confidence in the resources of the dear old Lone Star State above all others, our subject may well be considered one of her most loyal sons. It is said of poets that they are born, not made. The same can be said with equal truth, and without fear of contradiction, of scientists. And if the modern inquiring bee-keeper is not a scientist, who under the sun is? The conclusion follows.

Like Langstroth of old, our friend and devotee of the busy gleaners of the field, received no encouragement from his parents, but, in fact, almost every discouragement possible; and his bees,

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which he had accumulated in his minority (some 60 colonies) he purchased to save them from other hands when he attained his majority. This is according to old German custom, that whatever earnings children may make before becoming of age belongs to the parents. He was told that bee-keeping was no occupation, and that he must take up some trade. Undaunted, young Scholl struck out for himself, and we behold the young adventurer seeking his fortune with determination away from the parental roof.

Mr. Scholl was about 21 years of age at this time, leaving October, 1901, and landing in Southwest Texas, where he made a thorough study of bee-keeping conditions in this bee-paradise. Here Scholl traveled in the interests of the Lone Star Apiaries and Lone Star Publishing Co., the "Lone Star Apiarist" being started in January, 1902, with Mr. Scholl as editor. In the meantime the position of managing apiarist for the Hyde Bee Co., had been accepted. This Company at that time owned 1150 colonies distributed in several counties.

Taking an active interest in Association work, Mr. Scholl, in 1899, was elected Secretary-Treasurer of the Texas Bee-Keepers' Association, and still holds the position. About this time he began to work for an experimental apiary, and was a member of a committee having this matter in charge, and was himself largely responsible for the appropriation which was made.

In May, 1902, our friend received a telegram summoning him to the Agricultural and Mechanical College, at College Station, Tex., for the purpose of establishing the above-mentioned experimental apiary, for which he had so diligently and earnestly worked. In the fall of the same year he was sent to Colorado to study bee-keeping conditions there, particular emphasis being laid on the investigation of foul brood. After remaining in Colorado for a month he returned and went again to Southwest Texas and the Coast region, to study bee-keeping conditions, and to work on collections for the entomological department of the college.

Mr. Scholl now came home and spent the winter enlarging his own private bee-business. At this time he was on the Legislative Committee which secured the foul brood law for Texas, and in the spring of 1903 he was appointed to the position of Apiarist and Assistant in the Department of Entomology at the Agricultural and Mechanical College at College Station. The work of carrying out the provisions of the foul brood law was in charge of the State Entomologist, and the work of foul brood inspection fell to the Apiarist. Mr. Scholl was always a believer in organization, and while here made special trips to talk organization as well as to do the work on regular foul-brood inspection trips. Several local bee-keepers' organizations were the direct outcome of these efforts.

While in the Department of Entomology a good part of the time was spent in studying the cotton-boll weevil, and experiments to determine some means of exterminating the pest were conducted. During the stay at College Station much Farmers' Institute work was performed by Scholl, and in 1904 he lectured to 42 audiences, the main topic, of course, being bee-keeping. Among the topics that of diversification of crops was also kept prominently in the foreground, bee-keeping always being brought in as one of the means of diversification.

While connected with the Department at College Station, Mr. Scholl was selected by a committee composed of College and Experimental Station officials, to fill a position under the German Government, which, becoming interested in growing cotton in its East African possessions, was searching for a trained man to assist them. This position was one of peculiar difficulties, and required a man who coud speak German; with a scientific training as well as versed in practical cotton-growing; and a considerable knowledge of economic entomology was also required. The position paid $3,000 per year, and Scholl seemed to be the only man available in the South, and was earnestly urged by his colleagues at College Station to accept the offer. After careful consideration Mr. Scholl felt it his bounden duty to refuse the offer in order that he might stay with the cause that he had espoused, viz., apiculture, saying that could he have taken Texas and his bees he would go—showing again his loyalty to his State and the cause so dear to him.

In the fall of 1904 Mr. Scholl went to Ohio State University and remained there for 6 months, returning to Texas in the spring to look after his apiaries. While at the University Mr. Scholl did remarkable work, considering his previous college training, and gained the esteem and respect of his instructors in all of his work, much of which was advanced courses in the natural sciences, notably botany, keeping in mind always the honey-yielding quality of the various plants. During his stay here he worked on his herbarium of honey-yielding plants, and now has a collection of some 300 species which is conceded to be the best collection of its kind to be found in any State. The plants are, of course, Texas species. After returning to College Station, work on the honey-plants was continued, and a compilation of notes also was taken up to accompany the plants. This matter was to have been published as a bulletin of the College, but on account of a recent change of officials the work has been delayed. Mr. Scholl resigned his position at College Station Dec. 1, 1905, in order that he might go back to his home in New Braunfels and enlarge and build up his own private bee-business, intending later to place it in the hands of a competent manager, and then resume his studies at the Ohio State University.

June 20, 1906, Mr. Scholl was married to one of New Braunfels' favorites —Miss Emma Froelich—and she was to accompany him "up North" when he came to resume his college work at Columbus, Ohio. At this time a most unfortunate accident befell Mr. Scholl, which nearly cost him his life, as no doubt it would had it not been for the constant care and nursing of the "little woman" whom he had taken as helpmate; and nobly she performed her part; for the accident was of a serious nature, a rib being broken over the heart. Blood-poisoning set in, and Mr. Scholl had about one chance in a thousand. But thanks to medical science and careful nursing, he is today as active as ever, after an illness of 5 months, in which our subject underwent several severe operations.

This spoiled the plans for the trip North, but did not cool the ardor for bee-keeping, and as soon as Mr. Scholl could get back home and around again, he could be seen about his bees, increasing his colonies here, buying more colonies there, and establishing new apiaries, which, this past summer, when the writer was with him, numbered 14, and scattered over the beautiful slopes of adjoining country here and there, the nearest apiary being 8 miles, and the farthest 197 miles from New Braunfels. Mr. Scholl regards this stretch of territory as important, in that it gives him a variety of flora, so that if there is a failure of the honey crop in one locality, he may get it in another. His past season's crop aggregated over 20,000 pounds, worth $2000, and this takes no account of wax and vinegar. Mr. Scholl produces both comb honey and extracted. The comb is "bulk comb honey," as they call it in the South, which is simply the comb honey cut from shallow extracting frames, such as Mr. Scholl uses, and packed in various-sized cans; then extracted honey is run in on the comb which is cut so as to fit snugly on the inside of whatever sized can is used. The proportions are 2-3 comb and 1-3 extracted.

The writer, who, by the way, is a bee-keeper on only a small scale, keeping bees for the fun of the thing as much as anything, and for study, was inclined to be skeptical in regard to Mr. Scholl's form of hive. Mr. Scholl uses only one depth of body for brood-chamber and super, and one and the same frame for brood-nest and surplus. Before leaving Texas a new convert had been gained for the divisible brood-chamber, and shallow frames identical for both brood and surplus. If you want to know the merits of this, read Scholl's articles. If they don't convince you, make a pleasure trip to Texas and have Scholl take you out to one of his apiaries where he keeps, for just such an occasion, several full-depth surplus bodies. After you have "hiked" a half-dozen or so of these heavy, bulky surplus cases out through the bushes and over the prickly pears, under the benign influence of Old Sol's most benevolent and broadest smile, if you still persist in clinging to such bungling appliances, we should say that there is probably no hope for such an one.

To continue our story, Mr. Scholl not only looks after his bees, but various side-issues as well, and these bring him in good returns. He is a hustler and a general handy man at anything that needs to be done about the house or home ground, or almost any old place in fact, and this very versatility has made him successful with his bees.

Mr. Scholl is a prolific writer, and contributes not a little to the various

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bee-papers. His place in the "Old Reliable" as manager of "Southern Beedom" is too well known to require further comment.

Finally, if you have never tasted Southern hospitality, then you will have to do so to appreciate it, and Texas is a good place to go in order to get this taste. Wonderful country, and wonderful resources! In the words of Horace Greeley, with a slight modification, we believe it to be good advice to say, "Young man, go *Southwest*."

Columbus, Ohio.

The Problem of Wintering Bees

BY PROF. A. J. COOK.

Shakespeare is so frequently quoted by our friends of the East—"This is the winter of our discontent"—that any words that may be helpful to the beginner will be welcome at this season of the year. The question has no importance to the bee-keepers of the Pacific Coast and will have less interest to our friends of the East when the principles involved are thoroughly understood, and guide in the general practice.

Nutrition and Activity.

We have from high authority that "He that doth not work, neither shall he eat." The reverse is equally true. If one does not eat, he can not do any effective work. All exercise of muscles or mind demands corresponding nutrition and nutrition only follows, among the higher animals, on eating and digestion. In California, where the bees fly every month of the year, they must eat much more than in the East, where they are confined and inactive for months together. In the East, if anything transpires that excites the bees, so that they move about to any considerable extent, they will, perforce, eat. But if they eat, there is danger of trouble, unless the amount is very slight, and the food of the very best.

Importance of Good Food.

Of course the bees are somewhat active in the coldest winters of the East, as they preserve the heat of the cluster, and must move somewhat. There is never a time when a blow on the hive will not meet with a response, by the bees, which show that they are alive and may become awake. Thus it is evident that the bees may—yea, must—eat even in winter, and when the cold is very severe.

We know that there are two kinds of food that the bees consume—the proteids and the carbo-hydrates. The pollen or bee-bread furnishes the proteids, and the honey the carbo-hydrate part of the food. We know that they often eat of the bee-bread, or have previously done so, as dissection shows pollen-grains in the stomach. I dare say Mr. Heddon was correct in his contention, that in long, cold winters bees were better with no pollen at all in the hive. Proteid food is essential for muscular development, and if the bees stir much they must have it. But if bees are very quiet in winter, it is safe to presume that they take very little pollen, or bee-bread; and it is safe to affirm that the taking of this food would do no harm were they to fly out often, and in such event would be absolutely necessary. But in the quiet of a severe winter, the bees will consume a little honey, and that should be of the best, and in such case it will be all digested, and will do no harm.

Wholesome Winter Stores.

We can never be too careful in giving the bees the very best for their winter supply. This requires—if we are to be certain—that we feed them the best cane-sugar syrup. Granulated sugar will always be wholesome, and as they store it, they will reduce it or change it to reducing sugar; it will need no digestion, and so the bees will safely take what is needed for their slight activity; and other things being right, they will surely winter well.

It is true that in most cases, if we feed what seems good honey, they will do well; but we can never know what there is in honey that the bees gather. Cider, rotten-apple juice, glucose from some grocery store or leaky barrel; honey-dew, which may be good and may be rank. So we see that there are many ways that the bees may have faulty stores, in case we trust to their natural stores for the winter supplies. It is wholly safe here on the Pacific Coast, but never safe where the rigors of an arctic winter swoop down upon the apiary. In case we do as Mr. Alexander advises—and it is sound advice—extract all in spring, that we may give room for brood-rearing, we may dispense with the cold, heavy combs that are a serious hindrance, in the midst of the brood-nest; and, best of all, may practice stimulative feeding—then we shall remove all the stores, and no one can complain that we are marketing artificial honey.

Quiet Very Essential.

Again, it is not enough that we see to it that the winter stores are of the best, but we must, at the same time, do all that we may to preserve the utmost quiet in winter. In the bee-cellar the bees must not be disturbed. Every disturbance means loss of bees, and all such loss weakens the colony, and courts disaster, in late winter and spring.

It may be true that in some cases the bees may suffer no little irritation, and consequent uneasiness, and still survive the winter. Bees differ in temperament as much as do people, and so some are less disturbed by noise than others; and, again, some become, apparently, used to confusion and noise, and so come through the winter with safety, even though this rule is not observed; yet we may rest assured that they will do better, if the quiet is secured, and it should be our aim and object to secure and maintain the utmost quiet that is possible. This involves good food, as poor food will disturb and irritate the bees. The same will follow from too severe cold. The very cold winters are generally the disastrous ones. We all know how our slumbers are affected by cold feet or a general sense of chill. I imagine that the same is true of bees, and the cluster will be disturbed by a sense of cold—will move, and as a result will eat too much; and, as they can not fly, will suffer.

I fully believe that one who will heed the above suggestions, will have no difficulty in wintering bees well every winter. The ideal condition is the best food, the greatest quiet, and a uniform temperature about and outside the hive of as near 20 degrees F. as it is possible to secure. Those who attain to this have little trouble to winter bees well.

Eucalyptus Honey.

I have always thought that honey from any plant would be good no matter how aromatic the juice of the plant, or what odors might pass from the leaves. I have grave doubts if honey is ever poisonous. We all know how strong the odor from the eucalypts is. I was eager to get some honey from these flowers, and a few years ago did so from Mr. Barber, of our Forestry Station. It was light and fine. The mints are very strong scented; yet what fine honey we get from the sages. The sap of the plant is no key to the nectar of the bloom.

Claremont, California., Nov. 11.

Honey Crop Reports and Prices

BY R. F. HOLTERMANN.

No one can read with careful consideration the various market quotations for honey in the United States and know their quality without realizing that the prices vary by several cents out of all proportion to the cost of transportation to the various centers. The prime reason of this is lack of organization among bee-keepers, lack of apicultural information (which may in a measure at least be secured through the various apicultural journals,) and to the difference of opinion as to the

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outlook, due to difference of temperament in individuals.

It will probably ever be while this Church Dispensation lasts that the various articles of commerce will be bought and sold on speculation. If a man has goods to sell below what the market value is, he is not commercially wronged by others buying it. In fact, no one could buy goods and sell them unless he could make a profit on them.

PRICES.

Owing to the establishment by the Ontario Bee-Keepers' Association of a committee to secure reports of honey crops, to study all the conditions which might affect prices, and their so far doing their work with good judgment, we have been able to be more unanimous than formerly in the demand for prices on our goods.

This year our prices for first-class comb honey have been higher than ever before. The price has been fairly well maintained; the only cloud upon the horizon as to the maintainance of these prices has been the stringency of the money market with the curtailment of business generally and the lack of organization in the United States. With the price of white honey in the East so different from what it is in the West, I can come to no other conclusion than that Western bee-keepers underestimate the quality of their honey, or that they do not care to get the best price obtainable for their crop; or (and this is, of course, the most likely reason) they did not correctly estimate the market conditions. After paying 3 cents per pound duty we have actually had some lots of honey imported into Canada at 10½ cents per pound, laid down; tins supplied free. And yet alfalfa honey is now worth 9 to 10 cents in the United States. Lack of organization is then of interest to bee-keepers the world over. With organization, too, no dealer suffers what he loses one year by not being able to buy at sacrifice prices. He will gain in another when the tendency of prices is the other way, and by organization and the reasonable regulation of prices he can afford to do business on a smaller profit, *because he will run less risk by depreciation in value.*

Be the price high or low, there must be a legitimate difference between jobber, wholesale and retail prices, and if the dealer loses in his business he is more chary about his next investment.

HISTORY OF HONEY COMMITTEE.

The history of the Honey Committee of the Ontario Bee-Keepers' Association is this. In 1902, at the annual meeting of the Ontario Bee-Keepers' Association at Barrie, Ontario, the Ontario Honey Exchange was organized. In its report it states:

"Its object is to establish a reliable and fair market price for the product of its members, the more proper distribution of honey, and to establish, when advisable, foreign and distant Canadian markets."

"The main officers of the Exchange shall consist of 5 directors, elected by the members of the Ontario Bee-Keepers' Association at each annual meeting, and to hold office for one year, and shall direct all business of the Exchange. They will choose a location, and obtain by rental or otherwise a suitable office and ware-rooms in some central city, and that shall be known as headquarters."

In short, the plan was to sell—more or less co-operatively to handle the products of the bee.

In 1903, H. G. Sibbald gave a report of the Honey Exchange Committee, and by it showed that at a meeting of this committee at Woodstock, August 15, the following prices were recommended: 60-pound tins, 7½ cents in Toronto; comb honey, $1.65 to $2 per dozen. At this meeting it was moved by H. G. Sibbald, seconded by J. L. Byer, "that the Ontario Bee-Keepers' Association appoint a committee to collect crop reports and distribute the same to the members." This was carried, and upon this basis the committee has acted and advised as to prices ever since, with a more than full measure of success.

This committee may have more arduous work in the future than it has had in the past. The condition of commerce, the fruit crop, and home and foreign honey crop, and the duty on honey, all must be fully considered when regulating prices. It seems to me the United States, perhaps under the National Association, might with advantage do something under the above head.

Brantford, Ontario.

Production and Ripening of Extracted Honey

BY C. P. DADANT.

I notice in the November number of The American Bee Journal an article from Mr. Greiner on the ripening of honey, and one from Mr. Townsend, taken from the Bee-Keeper's Review, on the comparison of expense in producing comb and extracted honey. I wish to make some remarks on these subjects.

We do not leave our honey on the hives beyond the time necessary to mature each separate crop. That is to say, the clover honey, which with us is the first crop, is taken off the hives just as soon as the crop is at an end, and, without waiting for the next crop. It is our experience that honey is very promptly matured at the end of a crop, and it is unnecessary to delay extracting beyond two or three days after the crop has ceased.

If the harvest is very heavy, and we run short of supers, as happened during the crop of 1903, we never hesitate to extract to make room, before the crop ends. In that case, we remove the supers which were first filled by the bees, for in such seasons we have more than one super on each hive, and sometimes as many as 4. The last supers put on will, of course, contain the freshest honey, whether they are above or below the others. So we may take 3 supers off a very populous hive and leave one on, of partly sealed and partly very fresh honey. The others will be returned after the honey has been extracted, perhaps to be filled again before the end of that crop of honey. In my mind, it is during those very heavy crops that the advantage of the honey extractor, and its capacity for saving labor to the bees, is most apparent.

In the season of 1884, I remember extracting some 5,000 pounds of honey from an apiary of 89 colonies in 3 days. At the end of the third day, we examined the colonies from which we had extracted in the morning of the first day, and found most of them with honey in every cell from which the honey had been removed 3 days before. No amount of argument could convince me that those bees could have secured anywhere near *half as much* honey, and stored it, during the same space of time, if they had had to build the combs for it.

We do not believe in honey ripened after removal from the hives, by artificial means. But allow me to say that, in this matter, one must not be too dogmatic. There are a number of things which may cause a different result. The warmth of the summer, the greater or less amount of moisture in the atmosphere, according to location; and, above all, the condition of the honey itself when harvested—all these things, or each of them, will have an influence on the more or less difficult ripening of honey by artificial means. As good an authority as the late Chas. F. Muth, was strongly in favor of artificial ripening. Mr. Muth was a practical bee-keeper of long experience, who was also a honey-dealer, and handled hundreds of barrels of honey each year. He did ripen honey artificially in an attic over his business house in Cincinnati, and certainly had a very good article of honey, as I found by actual examination years ago.

The body of the honey, at the time of its harvest by the bees, is of very much importance. I know that it has been habitual to say that fresh-harvested honey contains something like 75 per cent of water. But there are times when it has much less water than this amount. Some grades of honey are always watery when harvested. Among these I will mention basswood honey. I have repeatedly found basswood honey that fermented in the hives, in the manner mentioned by Mr. Greiner at the foot of page 720. This and other reasons have caused me to say that the sealing of the cells by the bees was not always a criterion of the ripening of the honey, for evidently in both my experience and Mr. Greiner's, the bees had sealed this honey before it was sufficiently ripened, showing that they are apt to make errors of judgment as well as ourselves. On the other hand, when the crop is at an end, especially when it ends abruptly, as by frost, they often leave quite a number of cells unsealed, the honey of which is as thick as any sealed honey they may have; the reason they have for not sealing it is very probably that they have ceased to make comb and expect to use up that honey before long. It is simply a matter of expediency and economy with them.

That certain grades of honey are very thick when harvested may be evidenced from the fact that statements have repeatedly been made by some bee-keepers in the Old World, that

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honey from heather was very difficult to extract from the combs on account of its density; some even go so far as to say that it cannot be extracted.

L. C. Root, the son-in-law of Quinby, a man of great experience in bee-culture, in discussing the ripening of honey, asserted to me that in his opinion, the thickest and best ripened honey is the slowest to granulate. I agree with this assertion. He went farther, and said that very ripe honey would not granulate. On this I think we should demur for the simple reason that there is very little if any honey that will not granulate under any circumstances. Even the thick heather honey, mentioned above as reported difficult to extract, granulates very readily. We have had honey, purchased in Louisiana, which was guaranteed by the producer to remain liquid. But we had not had it three weeks in our cold January climate of Illinois before it began to show the change.

I would most emphatically agree with Mr. Greiner in trying to keep the different grades separate. Nothing is more difficult to sell than a grade of extracted honey which is streaked in color by the uneven mixture of two different grades. When it becomes necessary to harvest mixed honey, I would insist on heating it and stirring it thoroughly to mix it. It is sometimes possible to make a very good grade of honey out of two very different crops. But much care must be exercised in not overheating it and destroying its flavor.

We had, at one time, a lot of pure basswood honey, from Lynnville, Iowa, which was so strong in basswood flavor that the average customer was afraid of it, and mistrusted its purity. We had also on hand a lot of very dark fall honey. We heated both and mixed them, and the blended flavors gave us an article that sold readily. The basswood changed the shade to a lighter color, and the fall honey had hidden the objectionable basswood flavor and odor.

In closing, permit me to emphasize the statement made by Mr. Townsend at the end of his article on page 720, as the report of his son:

"I could have worked 5 yards for extracted honey with the same labor it took to produce this crop of 2,300 pounds of comb honey."

My preference for the production of extracted honey is based on the same idea. A much greater quantity of honey can be taken care of. A less number of swarms secured. See Mr. Townsend's report on the same page—30 swarms when producing comb honey, and 5 swarms when producing extracted honey. To the beginner this may not be an important item, but to the apiarist who already has as many colonies as he cares to keep, the matter of undesired swarms is most important. What we want is honey—more honey—not more bees.

The only drawback to the production of extracted honey is the difficulty of its sale. This does not exist in Europe, and that is why so much more of it is produced there than here by large apiarists. Comb honey, in America, will long be of more ready sale than the other kind.

Some of the Results of Bee-Keeping in 1907

BY G. M. DOOLITTLE.

"How have the bees done this year?" is a question which comes to me from my correspondents. Another correspondent writes: "You used to report the result of each season in the bee-papers. Why do you not do it any more? Just tell us through the American Bee Journal the result from the bees during the year 1907."

This reminds me of what the bee-men used to be accused of years ago, when it was said at our bee-conventions and elsewhere, that when bee-men had a good season with a large yield of honey, they were sure to rush into print with the matter, setting bee-keeping out in glowing colors; but when a poor season came, they kept as mum as a clam, and thus only the rosy side of our pursuit appeared before the public gaze, this causing many to get a false impression of our occupation and rush into bee-keeping to the detriment of those already in, through an over-production of honey. I know it is easier to tell of our successes than of our failures; but I never believed that there could be an over-production of honey while there were hundreds and thousands of mouths watering for even a taste of the honey piled up in the bee-keepers' store-rooms or on the markets of our country.

But I am not asked for an article on over-production, nor could I properly "tackle" the matter had I been, so I will content myself in telling the readers of the American Bee Journal something of the season of 1907 and its results in southwestern Onondaga County, which is a part of the State of New York.

The bees came out of the cellar in fine condition, as good as I ever knew them to do, but after a few warm days it turned cold, and it kept that way till near the middle of June, so that on June 10, at a time when the hives should have been full of bees and brood, there was not a single colony that was as good as it was the day it came from the cellar, while many colonies were not half as good. Of course the season was late, but not nearly so late as were the bees, although everything was done that could be done to advance them along the line of prosperity. With June 20 warm weather came, and this pushed vegetation along very rapidly, so that I saw that if any results in surplus honey were to be obtained it must come along the line of massing the bees together, rather than a line of expansion. To this end, brood was taken from the weaker colonies and given to the stronger ones, so that these arrived in fairly good condition when the clover and basswood bloomed later on, at which time the plan of "shook swarming" was followed, and the beeless brood given to the weak colonies from which brood had been taken to help the stronger ones up to where this "shook swarming" could be done to advantage just at the commencement of the honey-flow. And to keep these colonies to which the brood was given from contracting the swarming fever before the time came to shake to the best advantage, all the combs not occupied with brood were taken out so as to give place for the frames of brood given, when these combs having no brood in them, but some honey, were placed in an empty hive, together with other reserved combs, sufficient to fill this extra hive, when a queen-excluder was placed on top of the hive of brood, and on this was put this hive of combs containing more or less honey. This honey helped the bees to keep up the brood below to its greatest capacity, and also gave a place for the storing of honey, should any little yield occur before the time was ripe for shaking; as well as to ward off any desire to swarm which might arise from the hive full of brood below. Besides this, it started the bees to work in the upper story, or the surplus apartment of the hive, if we please so to speak, so that at the time of shaking the bees were used to going above with any honey which came from the fields. And, besides this, at the time of shaking this hive of combs in which the bees had been at work for some time, was just the hive into which they were run when they were shaken from their brood, as it was necessary only to set this upper hive on the stand in place of the hive of brood, put on the supers of sections, and shake the bees in front.

They were then in their own home, as it were, but without brood, and as the queen continued to lay right along, the honey in these combs, together with that coming in from the fields, was rushed right up into the sections, through the force of habit they had acquired before the shaking. Every bee, or practically so, which was in both stories of the hive before shaking, was now in that hive of broodless combs and honey, and for this reason there had to be an overflow of bees right into the sections; and, as the queen demanded room for the laying of her eggs, and the bees also demanded brood for their future existence, all thought of future swarming was banished, and work with a will was at once begun right where it would count for money in the pocket of the apiarist.

The combs of beeless brood were piled 2 deep on the weak colonies, and the emerging of this brood soon made these colonies strong, with plenty of room for the storing of all the honey that came in from the fields, in the cells vacated each day by the thousands of emerging brood, for the queen was kept in her old hive by means of a queen-excluder before the hives of brood were set on top.

Now for the result of this massing plan in a poor season, for it proved to be the poorest of any season I have known since that of 1869:

The average yield of section honey from the colonies so worked was 61 1-3 pounds, or that many pound sections, while in the combs put over the weak colonies there is an average of about 45 pounds that could be extracted; but as I prefer to keep this for next season's use, it will be stored away to set over colonies next year in following out the

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plan here detailed another year, should the year of 1908 prove something after the fashion of this year.

All colonies have sufficient stores for winter, as those lacking have been supplied from these combs of honey before the 45 pounds average was taken.

As far as the yield is concerned, I have done much better, but I think nothing like it before when the poorness of the season was taken into account. And I should not have given the matter for publication only with the hope of inspiring some one who does not have an "eye" on the season, to get the bees and the season together in some way, so that even a very poor season may count towards success. I know that there is considerable fun poked at "locality," etc., but I am firm in the belief that those who know how best to bring the locality, the season, and the bees together, will be the successful ones; while those who pay little or no attention to these matters, or scout the idea of there being anything in them, are those who are the most liable to be candidates for "blasted hopes."

Borodino, N. Y.

By W. A. PRYAL, Alden Station, Oakland, Calif.

In Union There is Strength.

"Bees accomplish nothing save as they work together—neither does Man."

This is one of the mottoes printed in good sized type that is conspicously displayed in offices in San Francisco. I presume it is so posted to induce the citizens of that unfortunate city to pull together and rebuild their city as never a city was built before. That's good. But looking at the words in another light, I am constrained to remark that the fellow who wrote the motto never had an opportunity to learn what one lone bee could accomplish when she got a genuine hustle on. A bull in a crockery shop might do more damage, but I am willing to go on record that he could not "skidoo" a crowd quicker han a hybrid bee whose business end was prepared for dire vengeance. For her size, there's nothing in the world that can put a crowd so quickly "on the run" as a bee on mischief bent.

Honey Prices Up.

I was in one of the leading grocery stores this afternoon in Oakland, making some necessary purchases, when I nearly lost my breath. Don't get scared, ye buyers of the necessaries of life; it was not from the fact that I went into such a store, or because of any ill effects of the commodities therein sold, that I came near collapsing. No, but it was this: *Honey has jumped up!* Yes, jumped — "soared," might be the better word. I saw one of the clerks wrap up a small section of honey for a lady customer and demand 25 cents for the dainty morsel. And he got it.

Just think! It was only a couple of years ago when I could never get more than a dime for the selfsame article. My! If my bees had produced only a few tons of comb-honey the past season, instead of a wheelbarrow full, wouldn't I be rich? Six dollars for each super turned off the hive instead of $2.40, as formerly! What a difference!

But how long will it last? I suppose next year honey will be down almost as low as ever. But the chances are that it will not. I noticed to-day that good eggs are quoted at 55 cents per dozen; creamery butter is 80 cents per "square" of two pounds. And these articles, too, are higher than usual at this time of the year. What must those do who can not afford to pay these prices? It is true that many men are getting higher wages than they ever did before, but then there are others who are not getting a cent more than they formerly received. I will leave the subject, as it is getting too grave to discuss in a bee-paper.

Death of A. D. Pryal.

As the March 14th issue of this Journal (p. 207) contained a short biographical sketch of my father, who could justly be considered one of the pioneer bee-keepers of California, it now becomes my painful duty to supplement such record with the announcement of his death. In the middle of last winter my father fell a victim to a bad attack of grip; for a time his life was despaired of. Along with that malady he was a sufferer from valvular heart trouble. He was sufficiently recovered, however, during April and May to be about and attend to his usual business, as he was always an active man, and liked to be engaged. It was while thus attending to business (he having gone with some of his employes to one of his places some distance from home) that he fell while climbing over a low rail-fence, and which fall is believed to be the cause of the abdominal abscess which terminated his life.

Thus, at the age of 76 years, passed away one of the best of men—a man who had been identified with the history-making epoch of California, especially of Oakland and Alameda County. The apiary he established on the old homestead in 1865 is still in existence, and is probably the oldest apiary in California that has been kept continuously in one place.

The Pepper-Tree and Eucalyptus.

In writing of the pepper-tree (page 333), I mentioned that Prof. Cook was wrong when he stated that it bloomed in April. I have always found it in blossom here in September; sometimes it would commence in August and continue through September. Now, strange to relate, I notice that a large pepper-tree on our place is just showing signs of blooming; in fact, a few blooms were expanding the 26th day of April. In May there was much more bloom. But I notice that the clusters are diminutive ones less than one-fourth the size of the bunches of flowers we have in the fall. The flowering of this tree at this time must, therefore, be abnormal. The tree must be getting the season mixed up somewhat.

This reminds me that some time ago, Prof. Cook in writing about eucalyptus for the American Bee Journal or Gleanings, I forget which, stated, as nearly as I can remember, that as that tree came from a country where it bloomed in the summer, it bloomed in the winter here. That does not seem right to me. I should think that if it, for instance, bloomed in July in Australia—which is south of the equator and the dead of "winter" of that end of the earth—it would bloom in January here. Does not a plant in the matter of blooming, etc., follow the seasons no matter where it may be transplanted?

Aside from the odd time of blooming I will mention this oddity of the pepper-tree. Drop some of the leaves in water and notice them sail about. They move by "fits and starts." The water causes little explosions in the leaves.

California—A Modern Mecca.

It may seem strange to some, nevertheless it is a fact, that a person who had lived a year or so in California, and for some reason or another was called to reside in some other portion of the world, is never contented until he is again back upon the fruitful soil and under the cheerful skies of the Golden State. For years I have observed how those who resided here for a time would come trooping back one after the other. A few months ago I had a letter from A. D. D. Wood, of Michigan, in which he stated he longed to return to California, and that he would surely do so as soon as certain ties which held him in the east were severed. I knew Mr. W. when he had charge of an apiary near here. I think he was in this State but 2 years. For the past few years he has been engaged, I believe, in rearing queens at his old home. It may not be many years before we hear of him as the leading California queen-breeder. And this is the place to rear fine queens. The wonder

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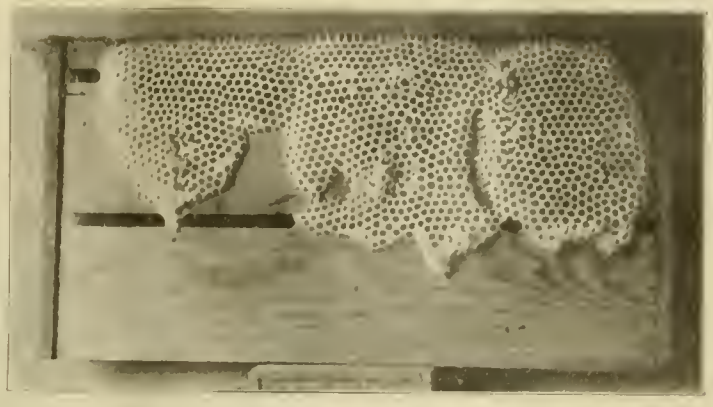
is that the business had not been made a large one here long before this.

Lately I heard that that veteran bee-keeper and apicultural bee-editor and publisher, Albert J. King, is again a resident of California. Prof. King lived here from the middle sixties, first at old Gilroy, and then later at what is now Oakland and Berkeley. He was the first principal of the Peralya School, then a district school but now one of the largest grammar schools in Oakland. From California he went East and was associated with his brothers in the sale of the American bee-hive, of which the latter were patentees. For some years he edited and published the Bee-Keepers' Magazine, now for some years defunct; then after he sold out his interest in the magazine he was interested in large apiaries in Cuba.

Another bee-keeper of more than common renown who lived in this State many years ago, as we are won't to compute time, was Prof. A. J. Cook. I never knew just how long he was here, but I read some time ago in one of the editions of his valuable work upon bee-keeping that he had resided in or near Sacramento. Any way, for many years we found him connected with the Agricultural College of the State University of Michigan, and where his work was such as to give him a world-wide reputation. But back to California he would come, and we have since heard of him in connection with Pomona College, in the Southern portion of the State.

And so it goes.



Comb Built on Division-Board.

want to use. The old-fashioned solid board is the board for me; I'm sure other bee-keepers who want results without handling flimsy contrivances that go to pieces upon the "slightest provocation," would sooner have a cast-iron "honey-board" than a "contraption" like the one pictured.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Freakish Things Bees Do.

When some thing of a freakish kind is shown us, we at once become interested. I suppose that's human nature. Nothing seems to interest the average man or woman so much as bees. Maybe that's because bees are freaks, or the next thing to it. Now I don't want it understood that I make this indictment against those wonderful little insects. No, I do not, but some one else has. What I would do is to say that sometimes bees do some very strange things. Witness some of the queer work they will do inside the hive, and, occasionally without. Herewith I am showing a piece of their freak-work done inside of one of my hives during the last spring. The comb attached to the division-board was made in a space not much over one-half inch wide—it was between the division-board and the wall of the hive, and I discovered it in time, else the comb would have been built in the entire space. The industry of the bee is not commendable when performed in such cramped quarters.

The photograph is one of the very best I ever secured. The effect of light and shade are good; even where the comb was broken the effect seems realistic in the picture. Now, while we may criticise the bee for going out of her way "to ply her trade," I must not let this opportunity slip by without having "a shot" at some of the makers of freak bee-hives. I would class the honey-board shown in the cut as a freak one that no practical bee-keeper would

Prospects for 1908.

It is rather early to say anything about what the next year will bring us, but a good, wet fall and winter, so that our trees and shrubs are loaded with sap next spring, is generally followed with a good honey season. Rains have been very plentiful here and all over Texas and other parts of the South, and unless something very unusual happens, the bee-keepers may expect a good honey crop next year, for which preparations should be started at once, as now is the time to begin.

Bees Gather Rosin.

During this year I have seen bees do what I consider a remarkable feat, and something I never read of them doing, that I remember. The remarkable occurence is that of gathering rosin from pine boards, rich with the glue. I first discovered them gathering rosin from a very rich board last April. Several dozen bees were thus engaged, and before long they had completely cleaned the board, taking, I should judge, nearly a pound. During the summer the same board exuded another nice lot of the rosin, during which time the bees let it alone for the more useful work of honey-gathering. Just now the bees are again actively employed collecting rosin from this same board, and making some use of it, of which I have taken no pains to find out. I would guess that they are using it as a substitute for propolis to stick things up with.

If there were enough rosin-bearing boards around for all the bees to employ their spare moments, I surmise that an honest adulteration of beeswax would result. In the meantime, for my part, I do not care how much of the rosin they gather, or what they are doing with it. I am of the opinion that they will not adulterate their wax to any appreciable extent with this pine glue. I have no time to sit around and try to exploit their method of using this rosin.

I judge that some of our bee-keeping brethern in pine-wooded districts could be able to inform us to the extent of bees gathering rosin, and to the use they apply it. T. P. Robinson.

Bartlett, Texas, Oct. 28.

Bees gather a good deal of resinous propolis here in the South to close up cracks and crevises in their hives, and I am sure that's what your bees are using it for. A great deal of rosin can be found on our mesquite trees, sunflowers, etc., which the bees collect for this purpose, although I have not seen them on pine boards.

Bee-Keepers' Exhibit at the San Antonio International Fair, Nov. 9 to Nov. 24.

The exhibits this year surpassed all previous ones, though the work on them was begun very late in the season. This, however, shows what can be done in a good season another year, and preparations for next year's exhibit are al-

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ready taken up so that the "cream of the bee-keepers' toils of 1908" may be hoarded together for the bee-keepers' exhibits at College Station, during the annual July meeting of the Texas Bee-Keepers' Association; at Dallas, during the State Fair; and then at the International Fair in San Antonio. Therefore, fellow bee-keepers, remember this during the coming year. When you have something for exhibition, let me know about it. Such exhibits are great advertisers of our own industry, you know.

W. H. Laws and D. C. Milam were the judges who passed upon the merits of the exhibits in the Bee and Honey Department of the Fair. The number of exhibitors and exhibits this year was the largest and most varied since the Fair was instituted, and as a result the judges had hard work in making their awards.

This year's display attracted great attention from nearly every visitor to the Fair. The observatory hives were a great source of constant interest, not only to the experienced bee-keepers, but also to the curious uninitiated.

The following rewards were made:

Best collection of Texas honey-yielding plants, pressed and mounted—1st, L. H. Scholl; 2d, Miss Meta Hillge.

Golden Italian bees and queen in single-comb observatory hives—1st, John W. Pharr; 2d, Grant Anderson.

Three-banded Italian bees and queen in single-comb, observatory hive—1st, W. O. Victor; 2d, Udo and Max Toepperwein.

Carniolan bees and queens in single-comb observatory bives—1st, Grant Anderson; 2d, Udo and Max Toepperwein.

Caucasian bees and queens in single-comb observatory hives—1st, Southwestern Bee Company; 2d, Udo and Max Toepperwein.

Cyprian bees and queens in single-comb observatory hives—1st, Udo and Max Toepperwein.

Holy Land bees and queens in single-comb observatory hives—1st, Udo and Max Toepperwein; 2d, Southwestern Bee Company.

Banat bees and queen in single-comb observatory hives—1st, Grant Anderson; 2d, Udo and Max Toepperwein.

Black queen and bees in single-comb observatory hives—1st, Southwestern Bee Company.

Best display of bumble-bees—1st, F. L. Aten.

Best and largest display of bees of various races in observatory hives—1st, Southwestern Bee Company; 2d, Udo and Max Toepperwein.

Best and largest display of queens of various races, in mailing cases—1st, Southwestern Bee Company; 2d, John W. Pharr.

Best case of white section comb honey, twelve pounds or more—1st, W. O. Victor; 2d, Wald C. Conrads.

Best case of light amber section comb honey—1st, Southwestern Bee Company; 2d, W.O. Victor.

Best and largest display of section comb honey—1st, W. O. Victor; 2d, Udo and Max Toepperwein.

Best display of special designs of comb honey—1st, Udo and Max Toepperwein; 2d, Frank Kraut.

Best twelve pounds friction-top pail white bulk comb honey—1st, L. H. Scholl; 2d, L. Jones.

Best six pounds friction-top pail white bulk comb honey—1st, L. H. Scholl; 2d, L. Jones.

Best three pounds friction-top pail white bulk comb honey—1st, J. W. Pharr; 2d, L. H. Scholl.

Best display of bulk comb honey—L. H. Scholl, both prizes.

Best dozen jars white extracted honey—1st, Southwestern Bee Company; 2d, Udo and Max Toepperwein.

Best dozen jars amber extracted honey—1st, Otto Sueltenfuss; 2d, Southwestern Bee Company.

Best display extracted honey, granulated form—1st, W. O. Victor; 2d, L. H. Scholl.

Best sample cake of bright yellow beeswax, not less than two pounds—1st, A. Fournier; 2d, L. C. Rosseau.

Best and largest display of beeswax—L. H. Scholl; 2d, Udo and Max Toepperwein.

Best display in special designs in beeswax—1st, Southwestern Bee Company; 2d, L. H. Scholl.

Best display of fruit preserved in honey—Southwestern Bee Company, both prizes.

Best honey-vinegar—1st, Moritz Rompel, 2d, Southwestern Bee Company.

Best instructive display in apiarian products and of the various uses made of honey and beeswax—1st, Louis Scholl; 2d, Southwestern Bee Company.

Best and largest display of bee-keepers' supplies—Diploma to Southwestern Bee Company.

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does *not* answer Questions by mail.

Packing Bees for Winter.

For out-door wintering, would it be advisable to make a box-shaped frame that would sit over the hive, leaving a space of about 6 inches on each side of the hive to be filled with hay or straw, and leaving the entrance open? This would be kept reasonably dry.

KANSAS.

ANSWER.—Yes, if you change that "reasonably dry" to "very dry," for no matter how well you pack the sides, if the top is so poorly protected that rain or snow gets in at all, there will be trouble. You say nothing about what you will have over the top, but no doubt you intend to protect it well, for it is more important to pack well over the top than the sides. A good many think it is not well to have the front of the hive packed the same as the other 3 sides, but leave it open, so the sun can shine on it when a warm day comes.

Wide-Top Section-Holders.

1. What style of section-holder do you use? I take to the wide-top style, although I have never used any, but as J. E. Hand advocated in Gleanings, I think they would be the thing to keep the tops of the sections clean; but I do not understand how the sections can be removed easily after the bees have propolized them as all bees do.

2. Therefore, I have an idea that a section-holder could be made in a way that the top-bar could be removed easily, and in a moment's time, so as to get at the sections as in an open-top holder. Is such a complicated holder any advantage, or will a solid wide-top bar admit us to the sections without trouble?

MISSOURI.

ANSWERS.—1. I use the T-super. It is not boomed in the catalogs, and some who have tried it do not like it, but quite a number—some of whom produce honey on a large scale—prefer it; and, rightly used, I believe it the best surplus arrangement in existence.

2. Different kinds of section-holders have been made that have top-bars covering the sections, and I'm not sure but some one tried something in the line of a removable top-bar such as you propose. I have some doubt whether the game is worth the candle. In the wide frame which was extensively in use some years ago, and is still in use by some, there was not so much difficulty in getting out the sections, even with quite a tight fit, and after the bees had glued them in. I've taken out tons of such sections, and in some cases they were probably as tight a fit as you would have with a removable top-bar. Even with this latter, you would probably find that the bees would crowd in streaks of glue between the top-bar and section. Like many others, I prefer to have nothing over the sections to prevent the bees from having access to the tops, and bees will not put as much glue on a plane surface as in angles and cracks. What glue they do put on can be scraped off.

Bees by the Pound—Disease Carried by the Queens, Etc.

1. Would a pound of bees shipped from the South in the spring make a good colony of bees by fall, say to be shipped from Tennessee or Kentucky?

2. Would it be best to put such bees on full combs, or just on starters?

3. If I should send South for some queens and the apiarist from whom I purchased these queens had a disease in his apiary, by introducing them, would my bees be liable to get the disease?

4. What color is the abdomen of a 3-banded Italian bee beside the 3 yellow bands, black or yellow?

MINNESOTA.

ANSWERS.—1. Yes, if shipped early enough in a good season.

2. There would be a decided gain in giving them full combs; and they should also have the advantage of being kept as snug and warm as possible.

3. The most common way of carrying foul brood is by means of the honey; and if honey from a diseased colony were to be taken by the escort of worker-bees, or in the cage, you could safely count on introducing the disease into your apiary. It is generally believed

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that the queen alone does not carry the disease; so when you receive a queen through the mail, and are not absolutely certain as to safety from the disease, introduce nothing but the queen alone. Take a clean cage and put the queen alone in it. Better make the change before a window in the house, so that if any workers of the escort get out you can kill them on the window. Then burn the cage in which the queen came, bees and all.

4. Back of the 3 yellow bands the rest of the abdomen looks about the same as that of a black bee.

Late Feeding of Bees for Winter.

I have a colony of fine Italian bees which have not stores enough to last them a month. I had to take it away last summer and have not as yet got it home. How can I feed it at this late day? It is in a chaff hive with extra super on filled with cushions.

ANSWER.—The best way is to give combs of sealed honey. Carefully take out the empty frames and put the combs of sealed honey close up to the bees, for if there is a space between the bees and the honey, and it should be quite cold for a time, the bees might starve without ever touching the honey. What's that you say? "Haven't any combs of sealed honey?" Well, that's about what I expected. But make up your mind that you'll always have them hereafter.

Well, if you haven't combs of sealed honey, maybe you have some honey in sections. You can fit some sections in a wide frame, or even a common brood-frame, by cutting away enough of the sections to make them fit in the frame. Rather an expensive way to feed; still, I've fed a good many sections in my time.

If you haven't the sections either, you can do quite well with candy. Take best granulated sugar and stir it into a very little hot water in a dish on the stove; but whatever you do, don't let it burn, for burnt syrup is death to bees in winter. Better not set it down in the stove-hole so the fire can touch the dish, but set the dish on top of the stove. Keep trying it, and when you find a little stirred in a saucer will grain, take it off quickly and pour into dishes making cakes ¾ of an inch to 1¼ inches thick. Put over the frames a cake of this candy that will pretty well cover the frames, or if cakes are small you can use more than one. Cover this with some kind of cloth covering, and shut up snug. Toward spring you may need to repeat the dose, but if you make the cakes thick enough and large enough no more will be needed for a good while. Your extra super on top will give you an extra chance to put on the candy and to pack it up warm.

Moth-Eaten Combs—Pollen.

1. I have a number of frames which look very ragged on account of moth ravages, some in which more than ½ of the comb is gone. Will the bees repair this and fill out the frames again if I give them to the bees next spring? or would I better cut out all this comb and put in new foundation?

2. All this comb is well filled with pollen. Will this keep over winter, and will it be all right to put in the combs next spring? My intention is to use these combs—8 frames of them—in a new hive next spring, for increase.

ILLINOIS.

ANSWERS.—1. If the comb is in good condition except for the ravages of the moth, it's good property, and it is well worth your while to keep it to give the bees again. Something, however, depends upon how the bees fill out the vacancies in the combs. If they fill them up with drone-comb, you might better melt up the combs and give foundation. If given to a strong colony in a flourishing condition you can count on a lot of drone-comb; if given to a nucleus, or to a swarm when first hived, you may count on worker-comb.

2. Pollen keeps well through winter, unless you keep it in a mouldy cellar, and pollen in good condition, pound for pound, is often worth as much as honey.

Amount of Sugar for a Pound of Honey.

Recently I had a suspicious customer—I often have them. I told him I did not know if bees would put glucose syrup in comb and cap it over. I agreed with him that they would put good sugar syrup in comb and cap it over, but from a little experience I had in feeding up weak colonies I had my serious doubt whether there would be any profit in it, or at least the profit would be so small that the consumer would have little to fear from that kind of a fraud.

Aside from the fraud, the work, exciting the bees to rob, and that we must feed till the body of the hive is full before the bees would put anything into the super, how much sugar would we have to feed for each pound section we would get filled? ILLINOIS.

ANSWER.—I don't know. After everything was filled up so that the bees really began storing in sections, it is possible that it wouldn't take much more than a pound of dry sugar (of course the weight of syrup would be more) to make a pound of the stored—whatever you would call it. If any one knows any more than I do about it, please tell.

Hives Full of Frames for Winter.

It is perhaps a little late to ask the question, still I should like to know if it is good policy to keep all the frames in a 10-frame hive over winter, even though the cluster occupies only about 4 or 5 frames. Would you advise me to remove some of the frames and to put in a division-board? I use chaff-hives, and thought that everything was in good shape as it is, without removing any frames. NEW YORK.

ANSWER.—Some time ago an eminent authority in France made experiments to compare the heat in a hive having part of the frames occupied by a colony and the hive filled out with empty combs, but separated by a division-board, with the same thing without a division-board. A thermometer showed there was no difference, and he decided that a division-board was no better than an empty comb. Since then it has been pointed out that although a thermometer may have shown precisely the same temperature in one case as the other, that does not by any means prove that the division-board did no good, for in the second case the bees burnt more fuel (consumed more stores) to keep up the heat, and we know well that the more the bees eat the more their intestines are loaded, and the shorter confinement they can endure.

Clearly it would have been better if so much empty space had not been left for the bees to keep warm. Whether it is better to make any change now is another question. If the bees are in a cellar whose temperature is 45 degrees or more, it will almost surely be better not to make any change, for the disturbance will probably do more harm than the change will do good. If the bees are on their summer stands—really I don't know enough to say whether it is best to make any change or not; but I half believe I'd risk them as they are.

Preventing Swarming—Location for Observation-Hive.

1. I have 4 colonies of bees. If I take say 2 frames from each colony and form a new colony just before swarming time, would it have any effect in preventing swarming? Or is there a better way?

2. Has the Lyman method of swarm-control any advantage over natural swarming, except the necessity of watching the bees? If so, what is it?

3. What is the best location for an observation-hive? Would an attic with a southern exposure be good? or would the attic with a northern exposure be best? or what is the best?

CONNECTICUT.

ANSWERS.—1. There is a great difference in bees about swarming, some colonies being much inclined that way, others very little. Taking 2 frames of brood from a colony of a very swarmy disposition would be likely to have but little effect. Even a colony not very bad in that respect would not be much affected by it if the frames were taken away after preparations for swarming were well on the way and queen-cells well started. Suppose, however, that we have a colony not greatly given to swarming. Indeed, the season is pretty well along, and as yet no queen-cells are started, although the colony is strong, so strong that within a very short time it will start queen-cells, and if we take away 2 frames of brood today it may be sufficient to make it give up all thought of swarming. So you see it depends upon circumstances.

2. Yes, with the Lyman method the forces of the colony are not divided up as they are with natural swarming.

3. The best location for an observation-hive is one that is most convenient for the observer, and at the same time comfortable for the bees. The most convenient place for you might be in one of the living-rooms, and that would likely be comfortable for the bees. But there might be objections to that, such

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as the meddling of children, driving you to the attic, where there is danger of too great heat on the south side. In some attics the north side would be all right; in others still too hot. To decide just the place for you, conditions, and also premises, must be carefully considered.

Roofing-Paper for Winter Cases—Wintering on Summer Stands—Do Bees Store Candy Feed?

1. I have 4 colonies of bees. For 2 of them I have wooden cases for winter, with a 3-inch space all around, which I pack with excelsior. I also put excelsior on top. Would 2-ply roofing paper fastened around the hive and over it, be as warm as the wooden case and packing? If not, would cushions 3 inches thick, filled with excelsior or corn-husks, and then covered with roofing paper be as good as the wooden case?

2. How do you winter bees on the summer stands?

3. When bees are fed candy, am I right in thinking that they consume it only as they need it, and do not store it in the combs? CHICAGO.

ANSWERS.—1. I doubt that the roofing paper alone would be as good as the wooden case and packing, but it is likely the cushions and roofing paper might be even better. Something, of course, depends upon the closeness of the two different coverings. It is probably easier to make the wood close without cracks than the paper. But granting equal closeness in each, the paper might be the better, especially if dark-colored.

2. I don't winter my bees on the summer stands, but in cellar. When I wintered on the summer stands some years ago, I was not as successful as in the cellar.

3. You are right in your view.

Home-Made Comb Foundation.

I keep a few colonies of bees for my pleasure and have saved some wax. Now, I don't like to sell wax for 20 cents a pound and buy foundation for 65 or 75 cents per pound. Can you recommend the Rietsche press? If not, say "No" to my second question; but if you can, please give a few hints as to how to make foundation.

1. Are you making your own foundation?

2. Could I make foundation? I have never seen it done. OREGON.

ANSWERS.—1. My time has always been so fully occupied with other things that I never tried making comb foundation. Besides, I think I can buy it cheaper than I can make it. I use foundation mostly for sections, and it would take a good deal of practise to enable me to make anything like as nice foundation as those who make a business of it.

2. There are thousands of Rietsche presses in use in Europe, and in the foreign bee-papers one sees nothing but praise for them. With the instructions that you would receive with the press without doubt you could succeed, even without ever having seen foundation made. It is claimed that with the press the foundation is softer and more acceptable to the bees. Situated as you are with regard to prices, I think I would get a press to make my brood foundation, and probably do some experimenting to see if I couldn't make it thin enough for sections.

Bees Deserting the Hive.

I transferred a colony of bees from a hollow tree to a Danzenbaker hive, filling up 4 or 5 frames with the combs from the tree. The balance of the frames had starters in them. After a few bees had gone into the hive I found the queen, caught her, and put her down among the frames. I left them there until the next day, and when I went back to get them, all of the bees were gone. What made them leave? I can't figure out any reason. There were young bees, eggs, and brood in the combs. OKLAHOMA.

ANSWER.—At this distance of time and place it isn't the easiest thing to make a guess. One of the most common causes of bees deserting a hive is high temperature. When a freshly hived swarm is set out in the broiling sun on a hot day, you may count fairly well on the bees deserting such an uncomfortable place. But it may be that your bees were in cool shade. Nothing is said about how far the hive was from the tree, their old location. If you took the bees a mile away from the tree, they would be more likely to stay. But if only a few rods from the tree, then many of the field-bees, if not all, when they returned from their first visit to the fields, instead of going to the hive, would return to the old location. Then it would be nothing so very strange if the balance of the bees would have a lonesome, discouraged feeling, and would take French leave. But as to knowing anything for certain about it, I suspect that as long as you live, every time you think about it, you can only say, "I wonder what made those bees leave."

Queen-Bee to Start a Colony.

Will you kindly give me the address of some reliable person from whom I can order by mail a queen-bee? Will this be sufficient to start a colony? How are they to be fed in winter? TENNESSEE.

ANSWER.—My good friend, this is not the best time in the year to make a start in the bee-business, and it isn't best to start with a queen alone. I think at this point that I hear some one say in a superior manner, "Why, any fool ought to know that colony of bees was never started with a queen alone." Now look here, don't you be getting too smart. I've heard of a colony being started with nothing but a queen, and if you never heard of it, it's time you did. What's more than that, lots of colonies have been started that way, lots and lots of them every spring. Of course they're bumble-bees, but one doesn't know about such things till one learns. Hive-bees are social beings, and a queen will not make much headway without a few thousand handmaids as helpers in the form of worker-bees. So you must start with a full colony or at least a nucleus, which means quite a small colony.

Before it is time to make a start in spring you will find queens and bees advertised in the American Bee Journal.

Look at the answer to "Indiana," as to feeding in winter; but if you are wise you will never need to feed in winter.

Best thing for you to do is to get at once a book of instruction about bee-keeping—you'll find them advertised in this paper—and make a study of it this winter. You'll save more than the price of the book in the mistakes you are likely to avoid next summer.

Rearing Queens.

Last spring I sent to Texas for a queen-bee which I gave to a queenless colony that I thought was strong enough to be worth requeening. The queen proved to be so good a one that I concluded that I wanted some young queens from her, and so gave her unlimited space for laying. I used a few combs containing eggs and larvæ in hives of queenless bees. At the end of the early white honey-flow and, before the later flow began, the queen had established herself in the second story and had several combs of brood there. The lower story had 3 or 4 combs of sealed and hatching brood, but no larvæ so young that queens could be reared from it. I found the queen in the upper story and took the comb she was on and placed it in another hive with all of the combs from this upper story that contained any brood. Then I took a comb from the lower story, containing only honey, and gave in its place the comb from the upper story, on which the queen had done her latest laying. The bees of the lower story went immediately to work and started a lot of queen-cells on this comb. I think I found one cell started on another comb, but this I destroyed. All the queens I reared on the comb given did good work later. Is there any reason why queens thus reared should not be as good as those reared by any other method? IOWA.

ANSWER.—Let's see. You divided a very strong colony into 2 parts. In one part was the queen and frames of the later brood, in the other part the more mature brood and one frame of the youngest brood. Of course, also, plenty of nurse-bees in each part. One part, supposedly, was put on a new stand, and the other left on the old stand. If the queen was left on the old stand, and the queenless part put on the new stand, the field-bees would all go to the old stand, leaving the queenless part practically in a dearth of honey, and you are not likely to rear the best queens when bees are feeling to any degree the dread of starvation.

I do not think, however, that was what you did. I think you left the queenless part on the old stand, and with plenty of nurse-bees to take care of the queen-cells, and abundance of honey coming

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in, the bees would be in best condition for queen-rearing. You will be told, however, by some good bee-keepers and intelligent, that the bees will be in such a hurry to rear a young queen that they will select larvæ too old for best success. So if there was anything beyond eggs and very young larvæ in the frame of unsealed brood given them, you may expect some poor queens, *if* those men are correct. I do not at all believe they are correct, and my belief is based on a pretty large experience in allowing queenless bees to make their selection from brood of all ages. This, however, I have experienced: The bees continue for several days to start fresh cells, and the last started may be with too-old larvæ. So it is better to reject these latest cells. But if you have virgin comb filled with eggs and brood as given in "Forty Years among the Bees," page 237, and have your queen-cells built from this, you may count on *all* the cells being started from larvæ young enough. Just why this difference I don't know, only that I have reared hundreds of queens in that way, and think I have had good proof that none of them were reared from larvæ too old.

Black Bees in Italian Colony — Fall Feeding — Non-Hatching Eggs.

I have just finished reading "Forty Years Among the Bees." I found it very interesting and instructive.

1. I had a colony swarm July 13, 1906. The young queen was very small, and never laid. August 9 I replaced her with an imported golden queen. During last spring the black bees gradually disappeared, but there were always 3 or 4 to be seen fanning in the entrance in the same corner every fine evening. June 22, 1907, I divided them, putting 4 nuclei in one 10-frame hive, and stuffed the entrances with grass. When I pulled out the grass there were 6 black bees dead in one entrance. These were the only black bees I could find in the nuclei, and the only bees that were dead, although some of the others were very weak and unsteady from suffocation. Is it possible that these bees were the daughter of the old black queen that swarmed July 13, 1906? Her swarm gradually weakened during the fall and died in early winter. My one other colony was headed by a leather Italian. There are no other bees within 2½ miles as the crow flies.

2. Is there any danger of feeding too much or too fast in the fall, either from troughs outside or from feeders inside the hives?

3. Is it common for a queen to lay eggs that will not hatch? I do not remember reading of any. I reared 6 leather queens the past summer. They are heading 6 strong colonies now. I also reared 6 golden queens. Only one of them laid, but her eggs did not hatch. She was the largest and finest-looking queen I ever saw, and laid as many as 6 eggs in some cells. She had more bees than some nuclei that did well.

PRINCE EDWARD ISLAND.

ANSWERS.—1. That's a tough one. It hardly seems credible that a worker-bee should have lived through from July 13 to the end of the following June. It is often the case that black bees stray in from other hives, but they would hardly come 2½ miles. It might be that your yellow queen was not purely mated, and some of her progeny black, but in that case the number of black bees would hardly be so small as you seem to mention. I give it up.

2. If fall feeding must be resorted to, the faster the better. For late in the fall all that is expected of the bees is to store what is given them, and as it is given them, whereas when fed at the earlier and better time the feed should be thin and the bees should have time to make the proper changes in it.

3. It is very uncommon. In 47 years' experience I have had only a single case of the kind to my knowledge; and I have read of very few cases. You are not likely to have another. Of course the trouble is with the queen, and the only remedy is to kill her and replace her with one that can lay a better brand of eggs.

Possibly it may be well to mention that any queen may lay eggs that do not hatch, but in that case the fault is not with the eggs. It is perhaps the usual thing in the fall that the last eggs laid by a queen do not hatch, probably because the bees do not furnish heat enough, and the same thing may sometimes occur in the spring. But as I understand it, in the case you mention everything was favorable for the hatching of any properly disposed egg.

Answering Questions — Wintering Bees Under Snow-Drifts — Tartaric Acid in Winter Stores.

1. Why do we never get any answers to the questions we send to you through the question departments of the various bee-papers?

2. What will be the result of wintering bees out of doors in a locality like some parts of the coast where a large proportion of the snowfalls are accompanied by high winds, that cause the snow to pile up in huge drifts and banks that often bury small objects like a beehive completely, sometimes 6 feet deep? In dividing some of my colonies last summer I unwittingly placed several hives in a location which I have since been told is in the direct path of the worst snowdrifts in the neighborhood. In fact, this is within a narrow space that catches the drifting snow from off a large field during successive snowstorms and which at times is 10 feet deep. I am very much averse to moving a colony of bees after it is once established in a place, especially during cold weather.

3. Although the following question is somewhat out of season, will you tell us the result of your experience in mixing tartaric acid or other acids with sugar syrup for winter stores? I haven't had time to experiment in this, and this fall I followed Prof. Cook's advice according to his book, and put an even teaspoon of tartaric acid into 15 pounds of syrup. I think this amount of acid is altogether too much for the amount of syrup. I believe much less acid in proportion would keep the syrup from crystallizing. The bees evidently do not like it.

4. What is the result of mixing the acid with cold or boiling syrup, relatively, and in different proportions?

MASSACHUSETTS.

ANSWERS.—1. I don't know. Certain it is that a goodly number of those who send questions get answers, as is abundantly testified by the amount of space occupied each month in this department. I think I have made replies of some kind to every question ever sent me, when the writer told me in what publication he wanted the answer to appear. If, by some strange means any letter of yours has come under the head of "lost, strayed, or stolen," let us hope it may not occur again.

2. Reports of results when hives were buried in deep snow have not always been the same. I think that in most cases it has been reported that the bees have done well, the snow making a fine protection, being porous enough so there was no suffering from lack of ventilation. I have no distinct data at hand, but if memory is not at fault some cases have been reported in which the bees seemed too warm, breeding being started, with diarrhea following.

3. Some years ago I had considerable experience in feeding up for several winters with tartaric acid in syrup. I used an even teaspoonful of acid for 20 pounds of sugar. I think it worked all right. How much acid that would be to a given weight of syrup depends on the strength of the syrup. For winter feeding I used 5 pounds of sugar to 2 of water, and that made a teaspoonful of acid to 28 pounds of syrup. Prof. Cook's teaspoonful of acid to 15 pounds of syrup looks just at first glance as if he made it about twice as strong with acid as I did. Whether he really did so depends upon the strength of the syrup. Referring to Cook's Manual, edition of 1902, page 266, where he mentions an even teaspoonful of acid to 15 pounds of syrup, it will be seen that he says, "We use equal parts of sugar and water." With the proportion of a teaspoonful to 20 pounds of sugar there would be a teaspoonful to 40 pounds of half-and-half syrup. That, against his 15 pounds of syrup, shows that he made it 2 2-3 times as strong as I did. Mine seemed to be strong enough, and yet I think at least one man reported that with the same strength as I used his syrup granulated.

Of late years I have used no acid. If I fed at all I gave half-and-half syrup in August or early September, and the bees made it all right without any acid. I cannot help thinking this is better than later feeding with acid. My feeders are becoming idle capital, as the pasturage has so changed that a fall flow may always be counted on.

4. I have had no experience as to different proportions, nor as to stirring acid into cold syrup; but I should think it quite difficult to get the acid well mixed in the syrup. My plan was to dissolve the acid in a cup of hot water, and then stir it into the hot syrup. But I don't believe it advisable to use acid at all. If you must feed, feed thin enough, and early enough, and the bees will do the rest.

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Reports and Experiences

Fine Shape for Winter.

The bees in this district have gone into winter quarters in fine shape.

JOHN S. SEMMENS.

Konantz, Colo., Nov. 4.

Outlook Good in Cuba.

The outlook seems quite good for a good honey-flow this fall unless the rains stop suddenly. But the preceding 9-months' drouth and cyclone, with the flood, have killed almost one-half the bees on the island.

M. E. ENGLE.

Los Palacios, Cuba, Oct. 20.

Fair Fall Crop of Honey.

We have had a fair crop of fall honey, and all sold so far at 10 cents a pound for extracted and 15 cents for comb, packages not included. Oceans of white clover came up last spring which is in fine shape now.

S. F. TREGO.

Swedona, Ill. Nov. 11.

Honey and Prices Better.

The weather is "fine as silk." Bees are on the summer stands and having frequent flights. The honey crop, while not a bumper one in size, in quality was the very best, and the prices much improved over former years. Bees appear in general to have plenty of stores to tide them over winter.

F. W. HALL.

Hull, Iowa, Nov. 16.

Rocky Mountain Honey—Wintering on Summer Stands.

1. I send you to-day a sample of my honey, and would like to know what you think of our Rocky Mountain product.

2. My hives are the Langstroth. The bees are strong, and I have left them on the summer stands. I put the bees all in the lower hives and put 4 thicknesses of gunny-sack over the frames, and left the top-boxes on full of honey for a reserve, and the lower hives also have plenty of stores. What do you think of that for winter?

UTAH.

1. The honey is very good indeed. It is so white, and the grain is so fine.

2. The commendable part of your packing is the great amount of stores left for the bees. A strong colony of bees will stand almost anything else if only they have abundance of stores, and are allowed to arrange those stores to their own notion. Too often the question seems to be, "How small an amount of stores can I leave the bees and risk their getting through the winter?" while you seem to ask, "How much can I manage to leave with the bees for their winter supply?" And in that you are wise.—EDITOR.]

Extra Year for Bees.

This has been an extra year for bees and honey. Bees are going into winter quarters in fine condition, with both plenty of bees and plenty of honey. The past season I secured something like $50 worth of honey (1025 pounds) and 2 swarms. Big yarn, but nevertheless it is true, and the honey is fine.

G. W. VANGUNDY.

Jensen, Utah, Nov. 3.

Virginia Bee-Keeping.

I have been down in Palmyra, Va., visiting my brother. You should see the Southern bee-hive, or "gum," as they call it. It is about 10 inches square, 2 feet high, with a space of about 6 inches of the top partitioned off for surplus honey. It was suggested that as I was a bee-keeper that I take away the surplus honey that evening, as it was cold enough to make the bees numb, and, in their opinion, make them less apt to sting me! I told them that I preferred to take the chance in the middle of the day. So the next day about noon they reminded me that it was warm enough for the bees to swarm, and offered to hunt up some gloves and old mosquito net if I wanted it. but I thanked them and lighted a bit of pitchy pine and blew a little smoke in at the entrance, then a little more at the top. Then I went to work and took the surplus honey out, and "took up" one late swarm without getting a sting, which they thought remarkable, as one bee chased 5 or 6 men away from me. Now those bees were quite a small variety of the black bee, so-called Italian bees down there.

I think that they have model places for the bee-business. If they would wake up and jump over about 50 years, and get modern hives and transfer their bees into them, they could make something out of their bees. I think that their bees are inclined to be milder than our black bees, and while their honey is not so fine flavored as our white clover and basswood, it is very rich.

E. E. KENNICOTT.

Glenview, Ill.

Keeping Bees for Pleasure.

While the majority of writers tell us about keeping bees for the dollars and cents there is in it, I am going to tell you about my keeping bees for the pleasure there is in it.

My work is in a railroad office, and is very tiresome and trying on the nerves to one with poor health. My health is broken down, and I have not seen a well day for the past 10 years. Yet I try to nerve myself up and push forward, and not allow myself to stop and think about how bad I do feel.

To explain matters more fully, 25 years ago, while employed as a railroad brakeman, and in the act of coupling cars, my foot slipped, and I was caught between the bumpers of the cars and had my entire lower jaw and tongue crushed out. This left me in a very trying position. At first I could not eat any solid food and could not talk, not even able to utter a sound of any description. All the surgeons and doctors who had charge of me at the hospital, as well as those that came to the hospital to see me, told me that I would never be able to speak again, as the organs of speech were all gone. This was a hard blow and made me feel very bad, as it was hard to think of going through life and not being able to speak. The old adage, "Where there's a will there's a way" came to me, and I thought, "I have the *will;* will the *way* be provided?" The Lord heard my faint call for help and came to my aid, as He will to all those who will only let Him. He gave me the gift of speech, and although it was the hardest work I ever did, I finally learned to form words so that I could talk. This has been one of the greatest blessings that I could have received. As to my eating, I have to take my food specially prepared so that I can eat it. As I can not chew any of my food, my stomach has double work to do all the time—that of mastication and digestion. Therefore I have suffered greatly with my stomach, and have at times such a distressed and nervous feeling.

I get 2 hours at noon. One I spend eating my dinner, and the other I spend working with my bees when the weather is favorable. My bees have been a great benefit to me in regard to my health. When I come home from the office weary and nervous, and on the ragged edge of despair, instead of sitting down and worrying about how bad I feel, I will go out to my bees, open up the hives and watch them working, when the sight of the little fellows hustling and tumbling over each other in their hurry to get in and out of the hive, seems to drive all the worry and care away, and makes me feel like a new man. Therefore I feel that my bees have been both a great pleasure and a benefit to me, as well as supplying myself and family with good, delicious honey, of which we consume from 350 to 400 pounds per year, using extracted honey in place of fruit, butters, jams, etc., as it is much more healthful. I use bread made from the whole-wheat flour, and spread each bite on both sides with extracted honey in order that I may be able to eat it. I find that the honey is very healthful and also very nourishing, and I feel much better after eating it than if I eat fruit butters, jams, etc.

Now, while I got away from bee-keeping to a certain extent, yet I feel that there are hundreds of others who have poor health that would be greatly benefited if they would get a few colonies of bees, a good bee-book, and one or more good bee-papers, and spend their leisure hours working with the bees, reading the bee books and papers, and try to get what pleasure they can out of life instead of worrying and fretting over what can not be cured. One can keep bees almost anywhere. I have my bees on the rear of a small village lot, and they do not molest any one.

J. T. ELLIOTT.

Colliers, W. Va., Nov. 26.

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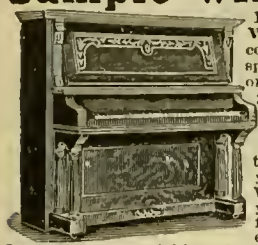

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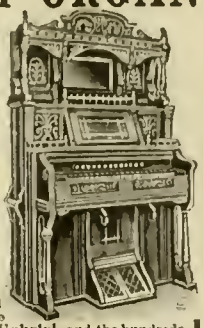

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Honey and Beeswax

CHICAGO, Nov. 25.—The demand for honey is not active. Sales are few, and a tendency to lower prices. Sales of comb made recently are from one to two cents below those of a month ago. Extracted is fairly steady on small lots at 8 to 9 cents for white; amber, 7 to 8c; dark 5½ to 6c. Beeswax, 30c.

R. A. BURNETT & CO.

KANSAS CITY, Dec. 9.—The supply of comb and extracted honey is more liberal, and demand only fair. We quote: No. 1 white comb, 24-section case, $3.25; No. 1 amber, $3.00; No. 2 white, $2.75; extracted, white per lb., 8 to 8½c; amber, 7 to 7½c. Beeswax, 20 to 27c.

C. C. CLEMONS & CO.

PHILADELPHIA, Nov. 25.—Sales of honey have been quite active in this market. We quote: Fancy comb honey, wholesale, 17½ to 18½c; No. 1 white, 16 to 17c; amber, 14½c; extracted honey, water-white, 9 to 9 1-2c; amber, 8c; dark, 7 1-2c. Beeswax, 30c. We are producers of honey and do not handle on commission.

WM. A. SELSER.

DENVER, Nov. 29.—Owing to the financial situation, demand for comb honey is not as brisk as it was during the fall; however, as there is a very small stock to be disposed of yet, prices are not affected to any extent. We make the following quotation to our jobbing trade: No. 1 white, per case of 24 sections, $3.15; No. 1 light amber, $3.00; and No. 2 at $2.75 to $2.85. Demand for extracted honey is good, and we consider ourselves fortunate in having a good stock of fine quality to supply our trade. We quote strictly No. 1 white 9 to 10c; and light amber 8 to 9c per pound. We will pay 22 to 24 cents for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

TOLEDO, Nov. 25.—On account of money stringency, honey is moving slowly, and prices are declining. Fancy comb brings, in a retail way, 17 to 19c, according to quality; No. 1, 17 to 18c. No demand for off grades. Extracted white clover, in cans, 9 to 10c. Beeswax is in good demand, and brings 30 and 32c. We look for light sales of honey from now on, as factories are laying off help, and all goods in the eatable line are moving slowly.

GRIGGS BROS. & NICHOLS CO.

INDIANAPOLIS, Nov. 27.—Demand for comb honey is not brisk, while best grades of extracted honey are finding ready sale. Indianapolis jobbers are paying the following prices for goods delivered here: No. 1 and fancy comb, 16 to 17c per pound, actual net weight. Best extracted in 5-gallon cans, 9 to 10c. Beeswax 28c cash, or 30c in exchange for merchandise.

WALTER S. POUDER.

CINCINNATI, Nov. 25.—Owing to the unsettled condition of finances throughout the country, causing much uneasiness and anxiety among the buyers, we look forward to seeing honey reach lower values in the very near future. We are at a loss to say what prices we will ask in days hence, but at this writing we are quoting extracted amber honey in barrels at 6 to 7 1-2c; fancy white in 60-lb. cans, 10c; and strictly fancy white comb honey (which is moving slowly) at 16 1-2 to 18c, according to the quantity purchased. For choice yellow beeswax, free from dirt, 30c delivered here.

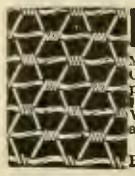
THE FRED W. MUTH CO.

CINCINNATI, Nov. 23.—The market on honey has eased considerably because of the stringency of the money market. Slow sales on comb honey. Colorado retails at $4.00 per case; white clover comb honey at 17c per pound. Extracted white sage at 9 and 9 1-2c. Amber in barrels at 6 to 6 1-2c. Beeswax very slow at 30c.

C. H. W. WEBER.

NEW YORK, Nov. 25.—We are having a good demand for strictly fancy comb honey. Receipts have been quite heavy and numerous of late, owing principally to the fact that most of the bee-keepers were late in shipping. We quote fancy white at 16 to 17c; No. 1, 14 to 15c; No. 2 and amber at 13c; buckwheat at 12 to 13c. The demand for extracted continues good, and we have as yet experienced no scarcity, having enough to supply our wants, and more. Prices are firm. We quote California white sage at 9 to 9 1-2c; light amber 8 to 8 1-2c; amber 7 to 7 1-2c; extracted buckwheat, 6 1-2 to 7c. Nothing is coming along to amount to anything from the South, and therefore it is hardly worth while to make quotations. What little there is sells at from 65 to 80c per gallon, according to quality. Beeswax quiet at 29 to 30c.

HILDRETH & SEGELKEN.



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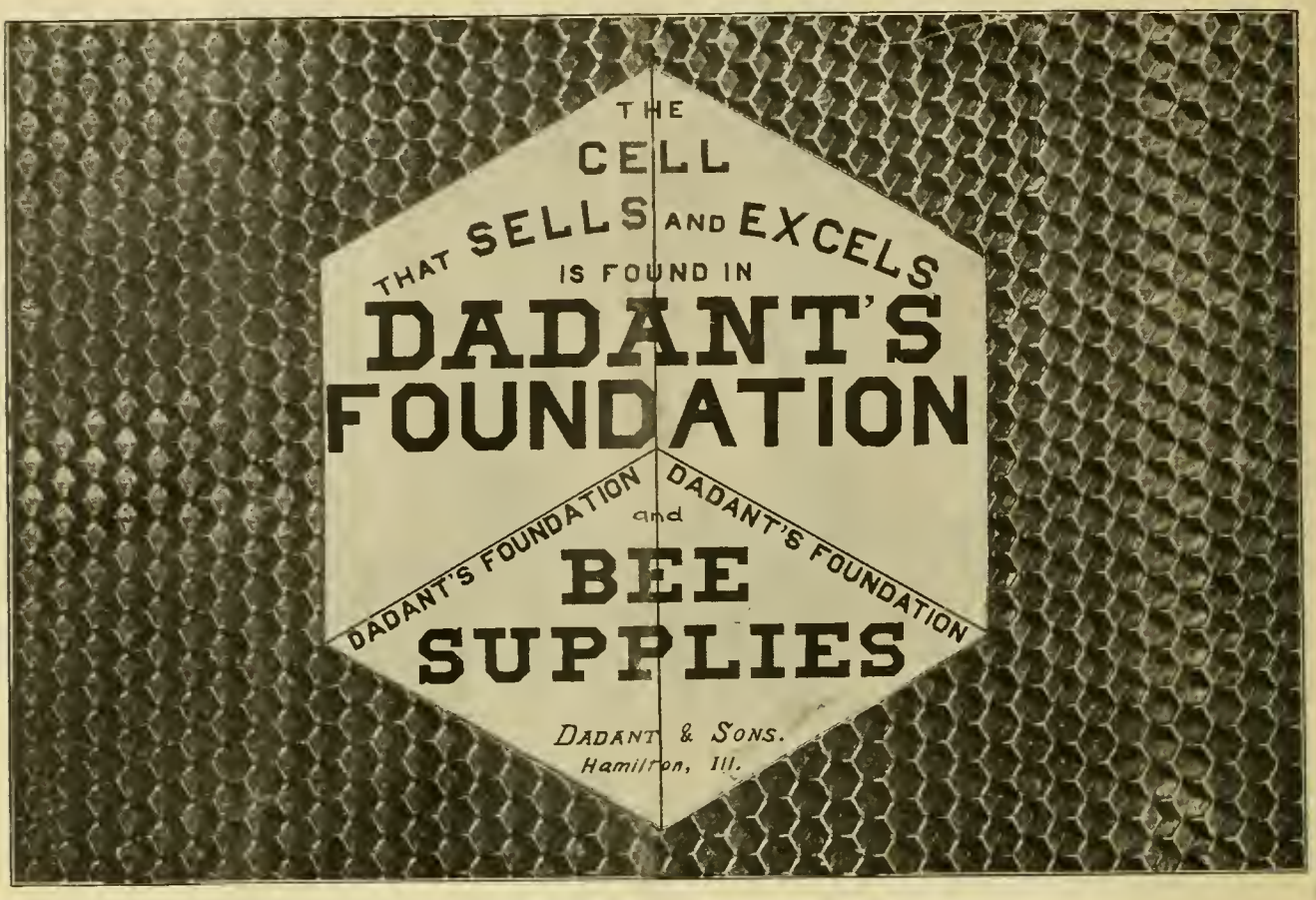

Advanced Bee Culture

One of the most difficult tasks of my life is that of writing an advertisement of *Advanced Bee Culture*. Be as modest as I can, it still smacks of egotism—sounds like a parent praising his own child. If the book had been written by some other man, the writing of an advertisement would be comparatively easy. However, even at the risk of laying myself open to ridicule, of becoming a laughing-stock, I am going to

Forget for Once

that I am the author and publisher, and write as though of another's work.

When 18 years old I visited an apiary in swarming-time; saw bees hanging in great golden-brown clusters from the swaying boughs of the old apple-tree; saw the snowy-white combs growing as by magic; saw the waxen cells filled with nectar, and inhaled that *sweetest* of all perfumes—the odor of a bee-hive in harvest time. I was filled through and through with enthusiasm. Here was a business that was most truly

The Poetry of Life

I was that day born a bee-keeper. There was no longer any doubt as to what should be my life-occupation. I at once began buying bee books and journals, and visiting bee-keepers, and studying the business from every possible standpoint. It was six years later before I was able to engage actually in the business, but I then possessed as thorough a theoretical knowledge of bee-keeping as does a young physician of medicine when he begins to practice. All this was 30 odd years ago; and since then I have

Run the Whole Gamut

of bee-keeping, time and time and again. I have practiced all sorts of methods for artificial increase; I have battled with the difficulties of natural swarming; I have produced tons and tons of comb honey; have tried my hand at extracted-honey production; I have reared and sold thousands of queens; I have exhibited bees and honey for 15 consecutive years at from one to half a dozen State fairs; I have wintered bees in all sorts of ways, outdoors and in, in cellars and buried in clamps; I have attended nearly all of the conventions of a national character;

Visited Hundreds of Bee-keepers

in their homes, scattered from ocean to ocean and from the lakes to the Gulf; I have read all the books and journals; for nearly 20 years I have published the *Review*, enjoying the confidence and correspondence of bee-keepers scattered all over the country; in short, I have been a wide-awake, enthusiastic, practical, actual work-a-day, bread-and-butter bee-keeper all of these years, making a living for myself, wife, and little ones, *out of bees*. *Advanced Bee Culture* is

The Ripened Fruit

of all these years of varied experience; it is the crowning effort of my life. I look upon it as the best piece of work that I have ever done, or, perhaps, ever *will* do. It is written from a bread-and-butter standpoint. It teaches how to make a living, yes, more than that, *make money* out of bees. From all of these sources that I have mentioned, from my own experience, and that of the men with whom I have associated, I have described the most advanced, the *best* methods of keeping bees for *profit*. I begin at the opening of the year, and go through the season step by step, touching briefly but clearly and concisely upon all of the most important points, showing their relationship one to the other, and how, joined together, they make a perfect whole. If I could have had this book 20 years ago, and followed its teachings, I might now have

Been a Rich Man

I say it fearlessly, because *I know that it is true*, that no practical bee-keeper can afford not to read it. The courage, enthusiasm, and inspiration alone will be worth more to him than the cost of the book, to say nothing of the more practical instructions. Many a man fails from a lack of these very useful qualities, and the perusal of *Advanced Bee Culture* will do much to help him in this respect.

One more point: A dozen years ago I took up photography as a hobby, as a pastime. I have studied it just as you have studied bee-keeping. I have read the journals and books on the subject, attended the conventions, etc. I have lugged a large camera along with me all over the United States and Canada, and used it with loving care. *Advanced Bee Culture.*

Contains the Gems

of this collection of all these years—a collection that is simply unapproachable in the line of apiculture. The book is beautifully printed with clear, large type, on heavy enameled paper. It is bound in cloth of a bluish drab, and the front cover embellished with a green vine of clover, a

Bee of Gold

sipping nectar from the snowy-white blossoms of the clover. Taken all in all, it is a beautiful book. If the advertising that I have done in the past has not convinced you that you need the book then the fault is in the *advertising;* and for this once I have cut loose and said just what I think of the book, just as I would of some other book—I may never do it again.

Price of the book $1.20, or the *Review* one year and the book for only $2.00. And remember that just at present you get all of this year's numbers free! That is, you can get the *Review* for this year and next, and the book, for only $2.00!

W. Z. HUTCHINSON, FLINT, MICHIGAN.